ABSTRACT

Title of Dissertation: TACKLING BARRIERS TO ADVANCED PLACEMENT: STRENGTHENING THE SENSE OF BELONGING OF FIRST-TIME ADVANCED PLACEMENT AND UNDERREPRESENTED STUDENTS

Anne D. Rickwood, Doctorate of Education, 2024

Dissertation directed by: Dr. Christine Neumerski, College of Education

The achievement gap between White and Black students in Advanced Placement (AP) courses remains a significant educational challenge in the United States (Ewing & Wyatt, 2023). AP programs enhance educational opportunities by providing access to rigorous coursework that can lead to college credit and advanced standing (College Board, 2020). These programs foster critical thinking, time management, and study skills essential for higher education success (Strayhorn, 2019). Participation in AP courses can address educational disparities by equipping Black students with the skills needed to thrive in predominantly White institutions, contributing to a more equitable educational landscape (College Board, 2020; Ewing & Wyatt, 2023).

However, many Black students face significant obstacles to participation, such as lack of encouragement from teachers, perceived racial biases, and social isolation (Rodriguez, 2019). This study investigated the factors contributing to the disparity in AP course participation, focusing on the experiences of first-time AP students, particularly Black students, in one high school. Using a mixed-methods approach, the study combined survey findings from first-time AP students with insights from a focus group of “Lead Higher” (Black) students to examine their

sense of belonging within AP courses. The primary aim was to understand how these students perceive their acceptance in challenging academic settings and identify barriers preventing Black students from enrolling in AP courses at rates reflective of the school's demographics. By centering on student perspectives, the research sought to uncover root causes that may perpetuate the achievement gap.

The research highlighted the importance of recognizing these barriers and establishing support systems that encourage a sense of belonging among Black first-time AP students. The findings aim to enrich the ongoing dialogue on educational equity by providing strategies to improve the enrollment and retention of Black first-time students in AP courses. Ultimately, this research sought to foster a more inclusive academic environment in the high school, where all students feel valued and empowered to pursue advanced academic opportunities.

TACKLING BARRIERS TO ADVANCED PLACEMENT: STRENGTHENING THE SENSE OF BELONGING OF UNDERREPRESENTED STUDENTS

by

Anne D. Rickwood

Dissertation submitted to the Faculty of the Graduate School of the
University of Maryland, College Park, in partial fulfillment
of the requirements for the degree of
Doctorate of Education
2024

Advisory Committee:
Dr. Christine Neumerski, Chair
Dr. Douglas Anthony
Dr. David Imig
Dr. Margaret McLaughlin
Dr. Jean Snell
Dr. Cixin Wang

Preface

Equality in education and ensuring that all students have access to a challenging curriculum is a passion of mine. I did not always think about the struggles that some students faced as they tried to access certain classes but were denied. The sometimes-closed-minded thinking of some colleagues has further inspired me to push for equal opportunities and access for students that may not always have a champion in the corner fighting for them. There are many students who need someone to believe in them and help pave the way for them to be able to access the education they deserve. I will continue to push others out of their comfort zone as I help these students achieve their dreams. I challenge you to do the same.

Dedication

There are several people who have played a significant role in my journey.

First and foremost, to my husband, Darren, your constant support and love have been the base of my success. You have stood by me and lifted my spirits through many challenges, particularly with my journey through breast cancer, and encouraged me to follow my dreams and complete this degree.

To my sons, Will, Wyatt, and Wes, thank you for being supportive and cheering me on while I worked towards my goals. You remind me of what really matters in life, and I hope to inspire you to pursue your dreams with the same passion.

I am profoundly thankful to my parents, who have always believed in me. Your trust in my abilities and your guidance have helped me build my confidence and allowed me to follow my dreams throughout my life.

I would like to express my deep appreciation to Dr. Brandi Taeschner and Ms. Joy Basagic for your help with collecting data and for your support.

I also would like to thank Dr. Christine Neumerski for her guidance and support throughout this process. There were a lot of challenges I faced along the way, and I appreciate all your support to keep me moving forward.

Finally, to my good friends Kathy and Mike and to my colleagues at work, your encouragement during tough times has been crucial to my success. You lifted me up and helped me keep moving forward. I truly appreciate the strength of our “family”.

Each of you has played a part in my success, and I am forever grateful. Thank you for being a part of my journey.

Table of Contents

List of Tables

List of Figures

List of Abbreviations

Abbreviation	Definition
AP	Advanced Placement
CHS	Central High School
CogAT	Cognitive Abilities Test
CSA	Causal Systems Analysis
ED	Economically Disadvantaged
EOS	Equal Opportunity Schools
ESEA	Elementary and Secondary Education Act
ESSA	Every Student Succeeds Act
IB	International Baccalaureate
ILT	Instructional Leadership Team
MCCR	Maryland College and Career Ready Standards
MSDE	Maryland State Department of Education
RHS	River High School
SCPS	South County Public Schools

Section 1: Introduction

Educational disparities have long been a challenge in the United States, with significant gaps in opportunities and outcomes for students of different racial and socioeconomic backgrounds. One such disparity is evident in Advanced Placement (AP) courses, where the achievement gap between White and Black students remains a pressing issue (Flores & Gomez, 2011; World Economic Forum, 2020). Advanced Placement (AP) courses offer high school students the opportunity to engage in college-level coursework and earn college credit. However, these courses are predominantly filled by White students, while Black students are noticeably underrepresented (Equal Opportunity Schools [EOS], 2020). This underrepresentation is not a recent phenomenon but is deeply rooted in the historical context of the American education system, which has favored White and affluent students (Patrick, Socol, & Morgan, 2020).

The systemic inequity in education can be traced back to the era of slavery, when Black individuals were denied education and basic rights, resulting in long-lasting oppression. The promise of education reform during the antebellum period aimed to provide universal education, yet it failed to achieve genuine equality for Black students, and more recent studies highlight that despite efforts towards reform, the gap persists, with numerous barriers still in place that hinder Black students from accessing and excelling in AP courses (Moss, 2009; National Center for Education Statistics, 2015; Schmelkes, 2020; WestEd, 2020; UC Davis, 2023). Black students have long been marginalized within the American education system, resulting in their significant underrepresentation in Advanced Placement (AP) courses (Flores & Gomez, 2011; Graziano & Aldeman, 2020). Recent data continue to underscore the persistent disparities in educational opportunities. The 2024 report from the National Center for Education Statistics (NCES) emphasizes significant concerns regarding Black students in Advanced Placement (AP) courses.

It reveals that Black students are less likely to enroll[1] in AP courses compared to their White and Asian counterparts. Furthermore, among those who do enroll, these students often face challenges in passing AP exams. This performance gap is attributed to various factors, such as unequal access to preparatory resources and supports (Chatterji, Campbell, & Quirk, 2021).

The report also outlines several barriers that prevent Black students from accessing and succeeding in AP courses, including biases in the identification process for AP classes, a lack of encouragement, and financial constraints associated with AP exam fees. This disparity is observed even in schools that offer similar levels of AP course availability (Irwin et al., 2024). Additional factors contributing to this ongoing disparity include insufficient resources in predominantly Black and low-socioeconomic status (SES) schools, biases in teacher recommendations for AP enrollment, and limited AP course offerings in these institutions (Gonzalez, 2020; Williams, 2021).

Social and cultural influences, such as the perception of AP courses as exclusive or elitist, may also discourage Black students from pursuing these opportunities (Postsecondary National Policy Institute, 2022). To mitigate these barriers, the report suggests several strategies, including providing professional development for educators, eliminating biases in student identification for AP courses, and offering financial support for AP exam fees. These findings highlight the urgent need for targeted efforts to promote equitable access to advanced coursework for all students.

Several barriers, which will be discussed in this paper, appear to continue to keep some students, particularly Black students, from participating in rigorous classes, including AP coursework. In what follows, I trace the background of the AP program, the historical context of

[1] Enrollment is defined as students who are registered in an AP class for credit for the entire school year.

Black students in advanced classes, the barriers Black students face, the role of sense of belonging in AP classes, AP programs and reforms, and the Lead Higher initiative, which focuses on identification and recruitment of non-typical AP students. This phenomenon will be explored in one high school in a mid-sized school system in Maryland.

Background on the AP Program

The Advanced Placement (AP) Program has significantly shaped the academic landscape for high school students by providing access to rigorous college-level coursework. Initiated by the Ford Foundation in 1952, the program aimed to meet the educational needs of America's brightest students during a time of national concern (Burton, et.al, 2002; Nugent & Karnes, 2002; Smith, Johnson, & Cook, 2021). Research indicates that students engaged in challenging high school experiences are more likely to excel in college and achieve professional success, highlighting the importance of preparing students for higher education (Carlton, 2022). After the College Board took over the curriculum in 1954, the AP Program expanded to offer various subjects and foster a culture of academic excellence. The AP program enhances students' academic profiles and promotes college readiness, making it a vital component of the educational system (College Entrance Examination Board, 2003; Smith & Johnson, 2022). Recent studies emphasize the continued relevance of AP courses in improving college admission prospects and academic performance in higher education (Chen & Duffy, 2018; McClarty, Fong, & Wiggins, 2018; Smith & Johnson, 2022). By understanding the sense of belonging and addressing barriers faced by underrepresented students, educational institutions can work towards a more inclusive and equitable AP Program.

Historical Context of Black Students in Advanced Classes

The education landscape for Black students nationally has been characterized by disparities. For instance, an 1850 census revealed that 68% of Black students in Boston attended school, whereas only 17% in Baltimore had the same opportunity (Moss, 2009; Smith & Johnson, 2022). Despite the passage of desegregation laws following Brown v. Board of Education in 1954 and the creation of Title 1 following Coleman's 1966 Equality of Educational Opportunity report, disparities in educational resources and student learning continue to persist by race throughout the nation (Smith & Johnson, 2023). Today, Black students continue to experience an achievement gap, which the National Education Association Foundation describes as "the differences between the test scores of minority and/or low-income students and the test scores of their White and Asian peers" (National Education Association, 2014, p.1; National Education Association, 2021). Recent studies confirm that these disparities persist, highlighting the need for ongoing efforts to address educational inequities (Johnson & Williams, 2023). Data from the College Board show that Black students are underrepresented in the AP program, and their performance on AP tests still lags far behind White students (Journal of Blacks in Higher Education, 2009; College Board, 2022; National Center for Education Statistics, 2023). The College Board (2014) in their 10th Annual AP Report to the Nation highlighted their efforts over that past decade that significantly expanded the number of students with AP opportunities but maintained that there were still other students who were unaccounted for and did not participate in the AP program. Districts across the country responded to this research by devising ways to identify students they may have missed, thus providing more equitable access (College Board, 2014; College Board, 2022; American Psychological Association, 2023; National Center for

Education Statistics, 2023). This achievement gap in AP must be addressed in order to improve the learning environment for all students.

Understanding Barriers to Black Student's AP Access

Barriers to participation in AP programs can be understood through structural, cultural, and psychological lenses. Structural barriers often include inadequate resources, such as limited AP course offerings in schools serving underrepresented populations (College Board, 2021). Additionally, a shortage of trained educators proficient in AP material exacerbates these inequities (McFarland, et al., 2019).

Cultural barriers, including societal norms and preconceptions, can create significant challenges for Black students in pursuing advanced academic coursework. When educators hold implicit biases about these students' potential to excel in rigorous educational settings, it can profoundly impact these students' ambitions and goals (Gonzalez, 2020).

Psychological barriers, including issues related to self-perception, can significantly hinder students' engagement with AP courses. Feelings of isolation and self-doubt often lead to students feel undeserving of their academic achievements (Parkman, 2016). Cultivating a strong sense of belonging can be crucial in overcoming psychological barriers that hinder students' engagement with AP courses. When students do not feel a sense of belonging within the academic environment, they may be less likely to take on the challenge of AP courses, fearing they are undeserving of such opportunities (Strayhorn, 2018). Fostering an inclusive classroom culture that validates diverse backgrounds and experiences can help mitigate these psychological barriers (Goodenow, 1993; Johnson & Williams, 2021). These psychological challenges can result in reluctance to enroll in or persist in AP courses (Parkman, 2016; Strayhorn, 2018). By addressing the psychological barriers rooted in a lack of belonging, educators can empower more

students to take advantage of the academic and personal growth opportunities offered by AP courses (Gay, 2018).

The Role of Sense of Belonging in Advanced Placement Classes

A sense of belonging is critically linked to students' academic motivation and success (Hausmann, Schofield, & Woods, 2018). When students perceive a connection with their peers, educators, and the broader educational community, their engagement in learning activities significantly increases. Fostering an inclusive environment is particularly vital for underrepresented students, who often experience barriers that can hinder their academic journey (Hausmann, Schofield, & Woods, 2018). Strayhorn (2019) emphasizes that belongingness not only enhances students' academic performance but also their emotional well-being, leading to improved retention rates and overall satisfaction with their educational experience. Therefore, schools must prioritize strategies that cultivate a sense of belonging, as doing so can help mitigate the adverse effects of social isolation and marginalization (Hausmann, Schofield, & Woods, 2018; Strayhorn, 2019).

To effectively enhance the sense of belonging among underrepresented students in Advanced Placement (AP) programs, a comprehensive approach is essential. Strategies may include mentorship programs that connect students with role models who share similar backgrounds, culturally responsive teaching practices that validate diverse experiences, and the establishment of supportive peer networks (Hurtado & Carter, 2016; Hansen, Palakal, & White, 2024). Additionally, fostering open communication between students and faculty can create a more inclusive atmosphere where all voices are heard and respected (Davis, 2020).

AP Programs and Reforms

The AP program has expanded rapidly over the last 10 years, with more subjects added to the curriculum and more students of all races participating in AP courses and exams (College Board, 2020). The AP program gained recognition as a rigorous academic program that could help all students earn college credit and stand out in college admissions, and in the 1980's and 1990's the College Board implemented reforms to improve the quality and consistency of the courses and exams (Nugent and Karnes, 2002; Zinth, 2016; College Board, 2020). These reforms included the development of detailed course outlines, teacher training programs, and periodic reviews of the curriculum and exams. However, although more students were participating in AP, through the end of the 20th century the AP program was still comprised of largely affluent, predominantly White high schools, even as the AP program expanded across the country (Carlton, 2022). By the early 2000's the College Board launched several initiatives to expand access to the AP program and improve equity in education. These initiatives included the creation of online AP courses, fee reduction programs for low-income students, and partnerships with school districts to offer AP courses in underserved communities (Carlton, 2022). A larger percentage of Black students began to participate in the AP program as it became more popular. From 1988 to 2002 the percentage of AP test-takers who were students of color rose from fewer than 20% to 31% (Carlton, 2022). Today, the AP program is widely recognized as a valuable opportunity for high school students to challenge themselves academically, demonstrate their readiness for college-level work, and potentially earn college credit or placement. It is offered in a wide range of subjects, including STEM fields, humanities, social sciences, and the arts, and is available to students in the United States and around the world (Mattern, Marini, & Shaw, 2013; College Board, 2022), though disparities continue to exist.

The mission of a school is to educate students to their full potential, and education has often been said to be the great equalizer both economically and socially (National Education Association. [NEA], 2021). In the past, the American higher education system in essence has acted as a gatekeeper to middle- and upper-class status, promoting and perpetuating inequities in wealth, power, and social class (Marina & Holmes, 2009; Smith & Johnson, 2021), and as a result, Black students have suffered hundreds of years of inequalities in the educational system as they were typically not part of this middle and upper class (Patrick, Socol, & Morgan, 2020). This ongoing disparity in educational opportunities begins in elementary school and continues to be evident as students move into high school. Black students are assigned to advanced classes at a much lower rate than their White peers at all levels, but it becomes more evident at the high school level (Solorzano & Ornelas, 2004; Johnson & Williams, 2021). Over time, this continued trend tends to widen the achievement gap among students.

Lead Higher Program

The Lead Higher initiative, a program of Equal Opportunity Schools (EOS), is one such initiative that aims to close equity gaps in high schools by increasing access to Advanced Placement (AP) and International Baccalaureate (IB) courses for low-income students and students of color. The Lead Higher initiative for states was created in April 2015 by a consortium that includes Equal Opportunity Schools (EOS), College Board, International Baccalaureate, and lead philanthropic partner, the Jack Kent Cooke Foundation. As a Lead Higher state, the Maryland State Department of Education (MSDE), in partnership with EOS, strives to reflect student diversity in AP and IB courses while increasing performance in those programs (Maryland State Department of Education [MSDE], 2019). In 2016, Maryland was selected as one of two states to participate in this initiative (MSDE, 2019). Chosen partner high schools

work with EOS to identify low-income students and students of color that have potential and are missed in typical identification methods for AP/IB. The objective was to identify and remove systemic barriers, increase students' measures of belonging, transform adult mindsets on who belongs, and increase enrollments and participation in AP and IB courses meaningfully (MSDE, 2019). EOS works with partner high schools to build a culture of rigor, belonging, and success by finding and enrolling students of color and those from low-income backgrounds in advanced coursework. EOS uses the term "underrepresented students" to collectively describe students of color, other minority students, and those who are low-SES (EOS, 2018).

In Maryland, the Lead Higher program provides funding to local education agencies (LEAs) to support these efforts. For example, the Maryland State Department of Education (MSDE) offers grants to participating schools to help them identify and remove systemic barriers, increase students' sense of belonging, and transform adult mindsets about who belongs in AP and IB courses (MSDE, 2019). Equal Opportunity Schools (EOS) entered into this partnership with South County Public Schools[2] and River High School (RHS)[3] in 2017 and until the end of the 2024 school year, EOS supported River HS in identifying underrepresented students who they may have missed for identification for AP course(s). Each year, EOS staff provided school staff with a schoolwide student and staff survey to administer at the beginning of the school year. From this, student insight cards were generated that included information on student GPA, trusted adults the student identified, if a staff member identified them as having AP potential, what learning mindsets they possess, and barriers to enrolling in AP courses that the student expressed. The school instructional leadership team (ILT) took this information and used

[2] The name of the school district has been changed to a pseudonym to protect the confidentiality of staff and students.
[3] The name of the school building has been changed to a pseudonym to protect the confidentiality of staff and students.

it to make a list of all students who had not been recommended for AP courses previously but who the team thought had AP potential to take an AP class the following year based on their learning mindsets and recommendations. This list of students included both underrepresented students (students of color, other minority students, and low-SES) as well as non-traditional White students who may have been overlooked due to previous way of recommending students for AP. The identified students were recruited and activities to encourage students to enroll in an AP course were implemented throughout the current school year, with the hope that the student would register for and be enrolled in an AP course for the first time in the following school year. The school leadership team at River HS recognized the historical biases in Advanced Placement (AP) enrollment driven by subjective teacher recommendations, which often favored certain demographics and overlooked capable students, particularly among Black students. In response, the team aimed to dismantle these barriers by intentionally targeting all first-time AP students to provide equitable opportunities for advanced coursework. Despite this inclusive approach, Black students remained the primary focus due to the significant gap in AP enrollment compared to the school's demographics. The school leadership team emphasized the importance of fostering a sense of belonging in AP courses, particularly for Black students, to encourage enrollment and success in advance placement courses.

A sense of belonging is crucial for the academic success of Black students. When these students feel included and supported, they are more likely to engage with challenging coursework and succeed in AP programs. However, many Black students report feelings of isolation and marginalization, which hinder their participation in AP courses. (Gonzalez, 2020). The sense of belonging is often shaped by various factors, including the representation of Black educators, supportive peer and school networks, and inclusive teaching practices (Hurtado &

Alvarado, 2021). The challenges faced by Black students in AP programs is different than White students and can lead to feelings of isolation and marginalization. Addressing these challenges requires a concerted effort from schools to create an inclusive environment where Black students can thrive (Bryan & Henry, 2021). By prioritizing the sense of belonging for these students, schools can not only enhance their academic performance but also foster a more equitable educational landscape (Hurtado & Alvarado, 2021). Schools must adopt comprehensive strategies aimed at promoting equity in AP course enrollment (Williams, 2021). This includes providing targeted support for Black students and increasing the availability of AP courses in underrepresented schools. Fostering a supportive environment that encourages all students to pursue challenging coursework is essential in closing the achievement gap (Smith & Johnson, 2022).

While the challenge of closing the achievement gap in AP courses is significant, it is not insurmountable. By understanding the historical context and implementing strategic interventions, stakeholders can work towards a more equitable education system that ensures all students, regardless of race, have the opportunity to succeed in Advanced Placement courses. This study aimed to explore the sense of belonging among Black first-time AP students at River High School (RHS) and identify the barriers they face with enrolling in AP courses. While other minority and low-socioeconomic status (low-SES) students were acknowledged as an important subgroup to target by Lead Higher, they were excluded from this study because the data reporting system used does not easily allow for identification of these students[4]. By

[4] The Maryland State Department of Education (MSDE) provides county-level data on free and reduced-price meal eligibility, which is used as a proxy for socioeconomic (SES) status. This data, however, is more difficult to track in detail regarding specific AP enrollment at the school level as this identifying information is no longer reported by school. Additionally, there are few minority students and the number is not statistically significant for state reporting.

understanding the challenges Black students face, we can develop strategies to promote equitable access to advanced coursework for all students and provide resources to support these first-time AP students.

Problem Statement

In South County Public Schools (SCPS), a mid-sized school system in Maryland, systemic inequities have resulted in the underrepresentation of Black students in Advanced Placement (AP)[5] courses. There are four high schools in the school system, and all of them offer similar AP opportunities. River High School (RHS) is one of four high schools within this school system. In 2020 at RHS, 1097 students were enrolled in grades 9-12. About a fifth (17.5%) of the students were identified as Black; 65.7% were identified as White; 6.3% were identified as Hispanic, and 8.1% as Multiracial. Additionally, 19.8% were identified as economically disadvantaged (the definition for low-SES in this county). Black students also disproportionally accounted for 35% of students who were classified as low-SES. According to Civil Rights Data Collection (2020), Black students at RHS were reported to be only 12.9% of the AP course enrollment although they represented 17.5% of the school's population, while White students, who accounted for 65.7% of the population, accounted for 69.5% of AP course enrollment. This means that that White students at RHS were over 5 times more likely to take at least one AP course than their Black classmates. Despite an increase in the school percentage of Black students from 12.8% in 2019 to 13.9% in 2023, their enrollment in AP courses remained disproportionately low, rising only slightly from 9.3% to 9.6%. This gap was one area of concern

[5] It should be noted that International Baccalaureate (IB) programs are not offered in SCPS.

for school leadership as there seemed to be practices happening at RHS that were preventing Black students from enrolling in AP courses the same as their White peers.

This study focused on the sense of belonging of Black first-time AP students. In addition, the research also aimed to explore the barriers that particularly hinder Black students from accessing AP courses at River High School (RHS). Other minority groups were not specifically tracked and included in this study as their numbers were not statistically significant, however they are included in the group of students classified as "Lead Higher" students by EOS. With Black students making up 17.5% of the student body but only 12.9% of AP enrollment in 2020, this disparity indicated practices at RHS that may disproportionately affect Black students more than other first-time AP students. The study also included a focus group of Lead Higher identified students to gain insights into their experiences and perceptions regarding their sense of belonging in their AP course(s).

Advanced Placement Practices in SCPS and at RHS

In SCPS, the process for recommending students for AP courses was historically based on teacher recommendations. Each high school followed general district guidelines to identify potential students, but the final decision on enrollment was made by school staff. This process was subjective and lacked standardized criteria. As mentioned before, in 2017, the school system partnered with Equal Opportunity Schools (EOS) to collaborate with school leadership in identifying students who were not enrolled in AP courses but had the potential to succeed in them. This partnership provided additional resources and introduced more standardized criteria and insights on success indicators for AP courses, which RHS had previously lacked.

After three years of partnering with Equal Opportunity Schools (EOS), school administration began to question why disparities in AP enrollment persisted despite the

additional support. As an administrator at RHS, I, along with my school leadership team (which includes administrators, department heads, and counselors), sought to understand what was happening within the school among staff and students that continued to perpetuate this divide. Student surveys conducted by EOS showed a sense of belonging to be an area of weakness for RHS, with 56% of underrepresented students who were currently in an AP course feeling like they do not belong in their AP class (EOS, 2020). This was a concern for school leadership as AP students who feel like they don't belong have a harder time connecting with their teacher and peers. This lack of connection can lead to decreased engagement, lower academic performance, and a higher likelihood of dropping out of the AP course. Ensuring that *all* students feel included and supported is crucial for their success and overall well-being, but particularly for Black students (Gonzalez, 2021).

The focus of this dissertation was to understand the sense of belonging of Black first-time AP students in grades 10-12. Additionally, it aimed to explore the barriers that Black first-time AP students (Lead Higher students) at River High School (RHS) face, which may prevent them from enrolling in AP courses at rates reflective of the school's demographics. The following sections of this paper examine these barriers at both the national and local levels, illustrates how they manifested at River High School, and provides recommendations to mitigate these barriers in the future.

Evidence Supporting the Problem

This section presents data on the scope of the underrepresentation of Black students at the high school level in advanced placement coursework, both nationally and locally.

National Data

Many high schools use advanced learning programs such as AP and International Baccalaureate (IB) to challenge students. Morgan, Zakhem, and Cooper (2018) found that when high school students enroll in a rigorous curriculum, such as AP, it leads to increased college enrollment, persistence, and graduation, regardless of gender, ethnicity, and socioeconomic status. Numerous studies show that students who complete a challenging curriculum in high school, such as the College Board's AP program, have a higher success rate in high school and in completion of college, and that there is a strong correlation between AP access and success in high school and college (Adelman, 1999; Coley & Gitomer, 2008; College Board, 2014; Bryan, et al., 2017).

The Every Student Succeeds Act (ESSA) of 2015 included provisions designed to advance equity and excellence for students. One goal was to increase students' access to learning opportunities focused on higher-order thinking skills due to the belief that these skills are needed for today's job market (Cook-Harvey, et al., 2016; Reardon, 2021). The research literature widely reflects the benefits of a rigorous high school curriculum. Many schools use programs such as AP as their rigorous curriculum, and AP course enrollment is one of the most reliable national measures of involvement in rigorous coursework. According to Cook-Harvey et al. (2016) and Lichtenstein, (2021), access to AP courses falls under the category of increased learning opportunities for higher-order thinking because the AP program has developed curricula that match the knowledge and skills needed to be academically prepared for college. Research also notes that high school students who take AP courses are more prepared for college and perform better overall in college due to being exposed to the skills needed to be successful in college and due to being part of a community of students and educators who are passionate about

the content and committed to academic excellence (Morris & Willingham, 1999; College Board, 2014; College Board, 2022). Conger, Long, and Iatarola (2012) and Smith and Johnson (2021) concluded that enrollment in AP courses leads to overall student success, with these students having higher grades and graduation rates in high school as well as increased college attendance and graduation.

Additionally, rankings of top high schools across the country are generated based on AP enrollment and scores by magazines such as *Newsweek and U.S. News and World Report,* and newspapers like the *Washington Post.* The number of minority students that participate in AP coursework is also used by Newsweek magazine in their score formula (Newsweek, 2012; Newsweek, 2021). The importance of advanced learning programs in these ranking systems has led to schools pushing students, particularly minority students, to take AP courses, but still often the number of minority students enrolled in advanced classes does not match the demographics of the school. Unfortunately, Black students do not enroll in these courses at the same rate as their more affluent, non-minority peers, thus putting these students at a disadvantage for college (Peters & Gentry, 2012; Smith & Johnson, 2021). The completion of AP courses in high school significantly increases a student's chances of being college and career ready and being successful in college. The goal of increasing participation in AP courses is supported through various studies by the Kao and Tienda (1998), Burris and Garrity (2008), Bryan, Farmer-Hinton, Rawls, and Woods (2017), and College Board (2014; 2022) that have shown the importance of offering rigorous coursework, increasing expectations for and participation in rigorous coursework, and providing information about college pathways in order to help low-income students and students of color achieve their college and career aspirations.

Advantages of Taking AP Classes in High School

The College Board evaluated the AP program in their *Annual AP Report to the Nation* and showed the positive impact taking AP courses has on students going into college (College Board, 2014; College Board, 2022). Warne (2017), along with Smith and Johnson (2021) concluded that students who take AP courses in high school score better on standardized assessments, attend college at higher rates than their non-AP peers, and are less likely to drop out of college; however, they also discovered that students who enroll in AP are usually from higher income families and are more likely to be White. As a result, these students have better academic preparation and a better chance to attend college than non-AP students and are more likely to be White (Smith & Johnson, 2021). The College Board Annual Report (2014; 2022) stated that underrepresented students, such as Black and low-income students, who also take one or more AP courses in high school, even if they do not pass the exam, improve their chances of going to college and staying beyond the first year.

The Princeton Review (2021) cites five benefits of taking AP classes in high school. The first is preparation for college. AP classes can be as challenging as college classes, which can help students know what to expect as they transition to college. The second is rising to the top of the pile. Taking AP courses shows college admission counselors that a student is ready for college-level work. The third is strengthening the student's transcript. Many schools have weighted grades for AP courses, which increases a student's GPA. The fourth is studying what you love. Students can take AP courses in subjects they are interested in. The fifth is getting a head start on college requirements and saving tuition dollars. Taking an AP course is great preparation for taking an AP test and most colleges offer credits for certain scores on AP exams, thus cutting down on the cost of the student's college education. AP course taking has also been

linked to higher rates of college admission and college success (College Board, 2014; College Board, 2022). It should be noted that successful scoring on AP tests is widely viewed as an indicator of students' college readiness by universities (Coley and Gitomer, 2008; Cisneros, et al., 2014; College Board, 2014; College Board, 2022).

When students enroll in AP courses, their chances of attending college and going on to graduate from college markedly improve (Horn, Kojaku, & Carroll, 2001; College Board, 2014; Smith & Johnson, 2021). In fact, students who participate in AP courses are 10-20% more likely to complete college, regardless of actually passing the AP exam. Therefore, more students need to be supported and encouraged to take AP courses before they graduate from high school. Nearly 50% of students who drop out of high school report boredom to be the main cause, and 66% of students who dropped out said they would have worked harder if it was demanded of them (EOS, 2018). Hopkins, in a 2012 U.S. News and World Report, supported the notion of students taking AP courses: "Kids [who take AP courses] usually are able to think outside the box; they're better prepared; they have stronger study skills; and the bar is held up for them at a level where they reach that bar themselves".

Disparate Enrollment in AP Coursework Nationwide since 2010

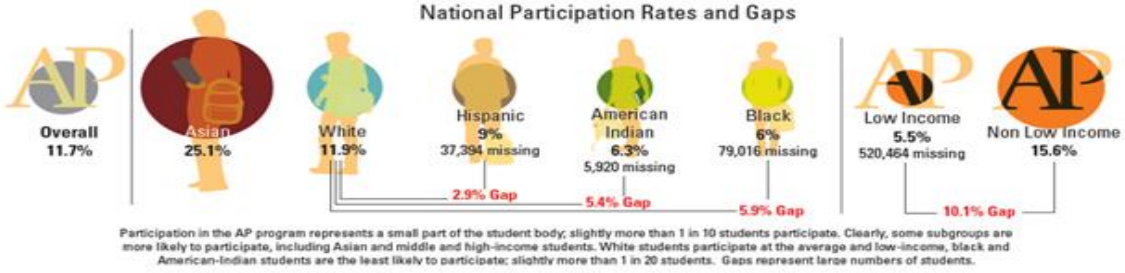
One significant challenge faced by high schools is ensuring that students graduate with the necessary skills for independence and achievement in college, particularly to avoid remedial courses, which are linked to lower graduation rates (Broad Prize, 2013; Hernandez, Rojas, & Takanishi, 2020). Research indicates that the foundation for Advanced Placement (AP) course enrollment begins as early as elementary school, where early educational experiences can significantly influence students' academic trajectories (Hernandez et al., 2020). By fostering a strong academic environment in the early years, schools can enhance students' likelihood of

taking AP courses in high school, thereby increasing their preparedness for college-level work and reducing the need for remedial support (Broad Prize, 2013; Johnson & Williams, 2021; National Center for Education Statistics, 2022). This highlights the critical need for educational policies and practices that prioritize early intervention and support to cultivate a pipeline of college-ready graduates.

Nationally, while Black students attend schools offering AP courses, they are less likely to take those courses than their White, middle-class peers (College Board, 2020). In 2019, Black students made up 15% of high schoolers nationwide, but only 9% of Black students enrolled in at least one AP course (Patrick, Socol, & Morgan, 2020), matching the statistics of South County Public Schools. According to the College Board Annual Report (2020), there was a gap in the number of students who take AP courses, particularly between minority (and low-SES students) and White, more affluent students. About 80% of high school students in the United States in 2020 attended a school with five or more AP classes available, yet as stated, still only 9% of Black students were enrolled in AP courses. White students were 1.8 times more likely to take AP classes than Black students. Data on low-SES students specifically can be inferred from free and reduced-price meal eligibility, but exact participation rates in AP courses for this group were not explicitly detailed in the 2020 report (College Board, 2020; National Center for Education Statistics, 2023). Figure 1 from Theokas and Saaris (2013) illustrates the national participation rates of students in AP courses in 2010, highlighting the disparities between different groups of students that have been on-going.

Figure 1

National AP Participation Rates and Gaps in 2010

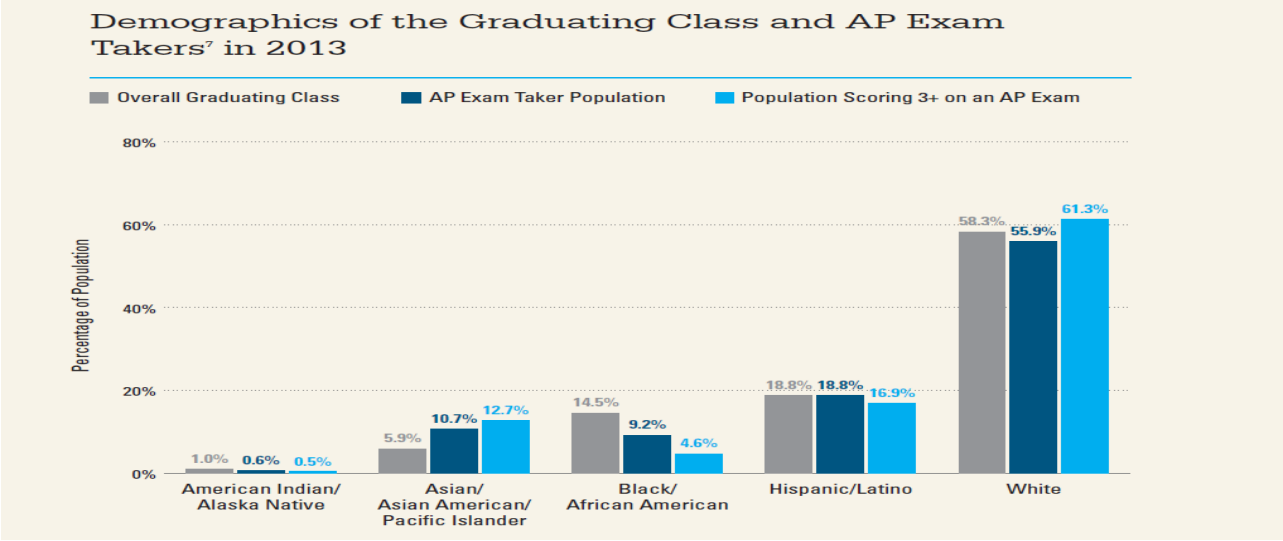


The figure highlights the persistent and significant gaps in AP course participation, with Black and low-SES students enrolling at much lower rates than their White and more affluent peers. This trend has been evident for years.

Continuing this pattern, data from the College Board Annual Report in 2013 is shown in Figure 2, which illustrates the demographics of AP exam takers in 2013. It reveals that Black students still were the most underrepresented group in AP classrooms. The chart compares the number of students in the graduating class of 2013 to those who took an AP course and those who scored a 3 or higher on the exam. Scoring a 3 or higher on an AP exam is considered an indicator of being fully prepared for college courses; these scores are also used by school systems as one measure of college and career readiness.

Figure 2

Demographics of the National Graduating Class and AP Exam Takers in 2013



Demographics of AP Exam Takers After 2013

By 2023, the percentage of Black students nationally participating in AP increased to 11% compared to the 6% it was in 2010 (College Board, 2023) indicating a positive movement in lessening the gap. However, in a College Board Research Brief by Ewing and Wyatt (2023) in which they explored the persistent disparities in Advanced Placement (AP) exam performance among different racial and ethnic groups, they found that, despite increasing participation rates, Black students continue to score lower on average compared to their White and Asian counterparts. This gap is attributed to various factors, including differences in access to rigorous coursework, resources, and support systems. The findings underscore the importance of addressing these inequalities to ensure all students have equitable opportunities to succeed in AP courses, which are critical for college readiness and access (Ewing & Wyatt, 2023).

In recent years, the demographics of Advanced Placement (AP) exam takers have reflected significant changes in the educational landscape of the United States. Understanding

these trends is crucial for educators, policymakers, and students as they navigate the pathways to higher education and career opportunities (College Board, 2022).

Racial and Socioeconomic Representation in AP

The diversity of AP exam takers has expanded significantly. In 2019, approximately 50% of AP exam takers identified as students of color, including Hispanic, Black, Asian, and other minority groups. This shift is indicative of the changing population dynamics in the U.S., where minority groups represent a growing segment of the student population (National Center for Education Statistics [NCES], 2021). In addition, students from lower socioeconomic backgrounds have increasingly participated in AP programs. Data from the College Board (2021) shows that the percentage of AP exam takers from low-income families rose from 18% in 2013 to 30% in 2020. This increase highlights efforts to make advanced coursework more accessible to all students. According to the College Board (2020), the same disparities in test scores that exist between Black and White students are also evident for students from economically disadvantaged backgrounds. However, efforts are being made to address this issue, such as the U.S. Department of Education's increased funding to allow more low-income students to take AP exams at little or no cost (U.S. Department of Education, 2021). Despite these efforts, disparities in AP participation remain, and more work is needed to ensure equitable access to advanced coursework for economically disadvantaged students.

The changing demographics of AP exam takers have significant implications for colleges and universities. As institutions strive to create diverse and inclusive environments, understanding the backgrounds of incoming students can inform recruitment strategies, support services, and curriculum development (National Center for Education Statistics, 2022). The

evolving landscape of AP exam participation reflects broader societal changes and the ongoing push for equity in education.

Disparate AP Enrollment in Maryland

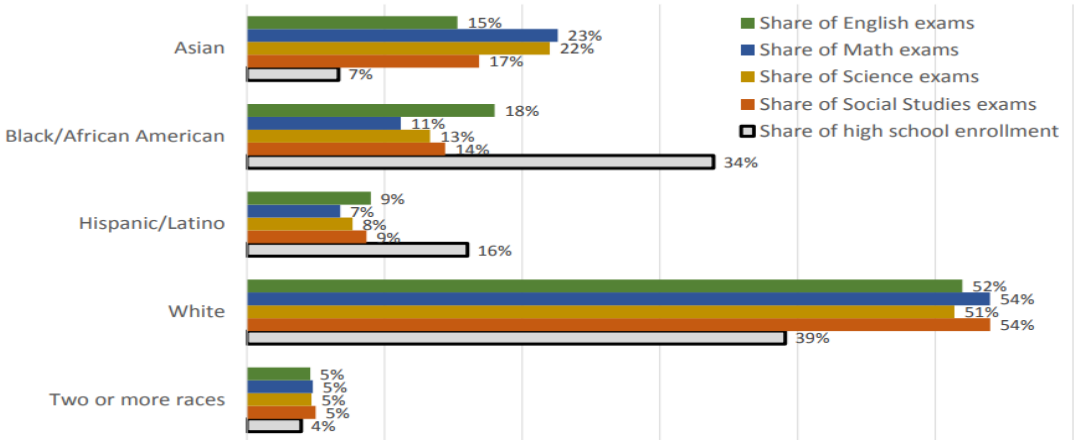
Since the 1990s, Maryland has made concerted efforts to improve education for all students. Statewide assessments such as the Maryland State Performance Assessment Program (MSPAP) were an all-out push to have counties adopt higher standards and have Maryland become a leader nationally (p. 3 Kirwan, 2018). However, these efforts were only partially successful, with Maryland's overall ranking remaining average compared to other states. In 2015, President Obama signed the Every Student Succeeds Act (ESSA), replacing No Child Left Behind (NCLB), which had been in place since 2002. States were tasked with creating their own consolidated state plan and presenting it to the federal government in order to receive federal funds for education. In Maryland, the Maryland Commission on Innovation and Excellence in Education, chaired by William Kirwan (and commonly known as the "Kirwan Commission") was created to respond to the requirements of the ESSA. This Kirwan Commission plan requires that Maryland high school students who are on track for college complete rigorous coursework, of which AP is included (Shuls, 2018).

Under the Maryland Consolidated Plan, a school's performance is evaluated on several indicators, including academic achievement, graduation rate, and readiness for post-secondary success (Maryland State Department of Education, 2018). Graduating students completing an AP course are said to have completed a well-rounded high school curriculum (an indicator of student success), and the percentage of students who earn a 3 or better on an AP exam also count towards the readiness for post-secondary success category since there is no statewide data that reports honors access. Each of these measures is tracked yearly and schools are given an overall

percentage and ultimately a rating out of five stars indicating school success (Maryland State Department of Education, 2023). Because of these measures and the importance of having schools with higher star ratings, enrollment of college-bound students in AP programs is critical, and this is why schools feel the need to increase the recruitment of students into AP courses. As stated, student enrollment in AP courses is one metric school systems use to determine involvement in rigorous coursework. However, nationally it's more common for schools to report the number of students who took the exam rather than the number enrolled in AP courses, which is a limitation of the data. Figure 3 shows the demographic breakdown of students in Maryland who took an AP exam in 2018 (Maryland State Department of Education, 2018). The gray line represents total enrollment of that demographic group, showing that while 34% of all Maryland high school students were Black, there was a large gap between enrollment and students taking an AP exam (which ranged from 11% to 18% by subject), whereas White and Asian students were overrepresented, accounting for 39% of the population and 51-54% of AP exam takers.

Figure 3

Share of 2018 AP Exams in Maryland by Subject, Taken by Student Group, Compared to Share of Total Enrollment



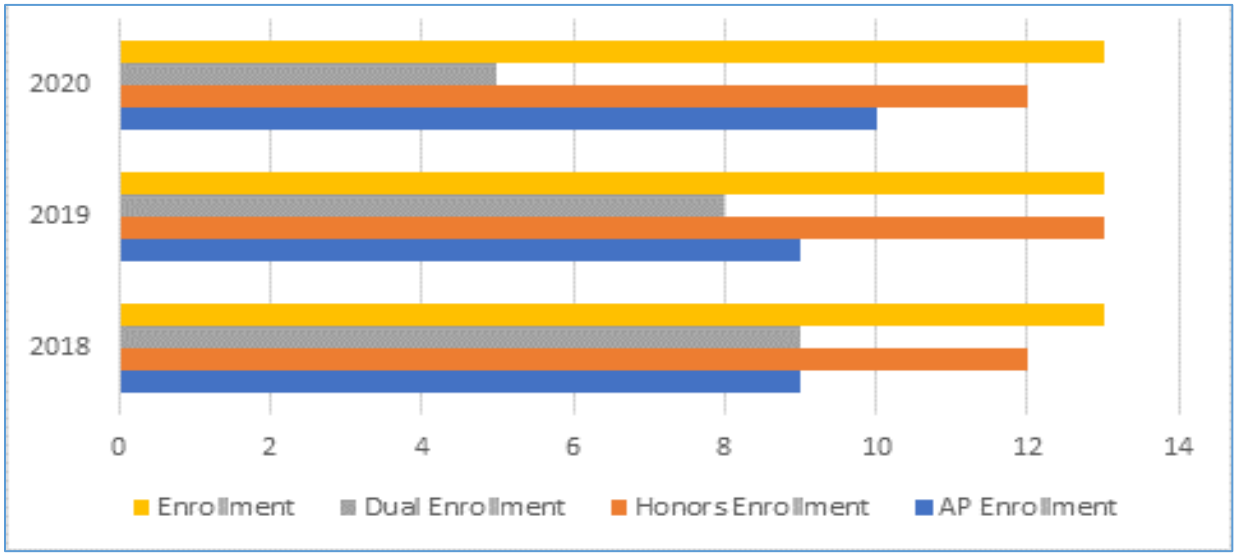
This data confirms that the nationwide disparity that is seen in AP coursework based on race is also apparent in Maryland, where White students are 2.3 times more likely to take AP classes than their Black peers (Groeger, Waldman, & Eads, 2018).

Disparate AP Enrollment in South County Public Schools, Maryland

As stated, the problem of underrepresentation of Black students in AP classes also exists in South County Public Schools (SCPS). The four high schools in this county each typically offer 24 different AP courses, as well as dual enrollment courses for math and English through the local community college. The SCPS data reflect the same racial and socioeconomic equity gap as the nation and state when it comes to participating in and successfully passing one or more AP classes. As seen in Figure 4, between 2018-20 honors enrollment appeared the highest and closest to the total enrollment of Black secondary students, and even though there was a gradual increase in AP enrollment, it still lags behind and is not representative of overall Black secondary student enrollment.

Figure 4

Black High School Student Representation in SCPS Rigorous Coursework 2018-2020



SCPS has established as its mission a commitment to produce graduates who are responsible citizens with options and choices in the 21st century (SCPS Annual Report, 2017). One way this can occur is through the enrollment of students in rigorous coursework, particularly AP classes. In 2018, Black students comprised 13% of total high school student enrollment but only 9.3% of AP enrollment (SCPS data 2018). In 2023, according to the Maryland State Department of Education (MSDE) data, the total student enrollment for the 2022-2023 academic year was 15,491. The demographic distribution indicates that 65.9% of the student population identified as White, 13.6% as Black or African American, 8.3% as Hispanic or Latino, 1.4% as Asian, and 10.3% as students identified with two or more races (Maryland State Department of Education, 2023).

In contrast, the demographic makeup of students enrolled in AP courses reveals a different trend. The total number of students participating in AP classes in South County in 2023 was approximately 1,200, making up about 7.6% of the total student population. Within this subset, the ethnic breakdown shows that 68.3% of AP students are White, 9.7% are Black or African American, 4% are Hispanic or Latino, 3% are Asian, and 6% identify with two or more races (SCPS, 2023). The data indicate that there continues to be a noticeable lack of representation of Black students in comparison to the overall student body.

This disparity raises important questions regarding access and equity in advanced educational opportunities. The underrepresentation of Black students in AP courses, despite their presence in the general student population, suggests potential barriers may be hindering their participation.

Disparate AP Enrollment at River High School

Table 1 shows the school data for RHS over eight years and the number of students schoolwide who were enrolled in AP courses. The number of seats per student has remained fairly consistent over this time period even as the size of the school has varied. The increase in number of students in 2019-20 enrolled in AP courses can be attributed to the recruiting efforts made by the school Instructional Leadership Team (ILT). RHS is similar to the overall SCPS data in the enrollment of Black students in AP courses. For example, in the 2020-2021 school year, 1,070 students were enrolled at RHS. Black students comprised 17.4% of the student population and White students made up 65.9% of the student population. However, the breakdown of students enrolled in AP courses in the 2020-2021 school year was 12.7% Black and 70.5% White, showing a clear disparity in AP enrollment compared to the overall student population.

Table 1

RHS Overall Student Representation in SCPS Rigorous Coursework

	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
School Enrollment	1033	1036	1055	1071	1070	1056	1023	995
Number of Students in AP Courses	353	400	417	478	448	378	437	381
Number of AP Seats Registered (Seats per total students)	633 (.61)	756 (.73)	746 (.71)	895 (.84)	780 (.73)	682 (.65)	772 (.76)	666 (.67)

To prepare all students for success in AP classes, at RHS they are first placed in an honor level course for increased access to a rigorous curriculum, then if successful (earning a 70% or better in the course) they may be recommended for AP the following year.

Table 2 shows the number and percentage of seats Black students held in SCPS rigorous courses (i.e. Honors and AP courses) compared to the overall student population over this same time period.

Table 2

Black student enrollment in Honors and AP at RHS over an 8-year time period

Honors and AP Totals	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Total Student Seats	2226	2393	2407	2419	2459	2474	2355	2448
# Black student seats	295	284	309	334	313	309	263	300
% Black students	13.3	11.9	12.8	13.8	12.7	12.5	11.2	12.3

At RHS in 2015-16, 13.3% of AP seats were Black students, in 2018-19 it rose to its highest participation at13.8%, and in 2022-23 was at 12.3%. During this same time period, the overall Black student population at RHS varied between 16-18%.

RHS has an Instructional Leadership Team (ILT) that meets weekly, and is comprised of the principal, the three assistant principals, the Student Services Team Lead teacher, and the department heads from English, math, science, social studies, special education, world languages, and performing arts departments, as well as a school counselor. Members of this group have examined school data and have asked, "Would a better understanding of what is holding Black students back from enrolling in AP courses lead to increased participation from these groups?" "Would staff be able to devise methods to increase student participation if they

knew the barriers these students were experiencing?" These questions form the basis of the problems this team grapples with yearly and that will be examined further in the following sections.

SCPS Advanced Placement Initiatives

In the 2017-2018 school year, River High School and another high school in the county, Central High School[6], began working with Equal Opportunity Schools (EOS) to identify students who were currently not taking an AP class(es) and develop ways to recruit these students for enrollment in Advanced Placement. Equal Opportunity Schools (EOS) works with more than 600 schools across the nation in partnership with College Board, the U.S. Department of Education, the Education Trust, and the International Baccalaureate to conduct research on student opportunity gaps and develop tools and services to address these gaps (EOS, 2021). EOS terms students who are experiencing an opportunity gap compared to their peers "missing" students (EOS, 2021). The RHS Instructional Leadership Team (ILT) in conjunction with the EOS representative working with our school, was tasked with gathering and analyzing SCPS data to create strategies to engage, advocate for, and eventually enroll these underrepresented students in AP classes. Prior to working with EOS, RHS used the College Board program "AP Potential" for years to identify students who should be enrolled in AP courses. The AP coordinator at RHS would look at the data from AP Potential and provided lists of student's of all races names to the AP teachers for them to recruit. This method resulted in some growth in the number of students taking AP classes (increases of approximately 50 students per year over two years), but the gaps did not close. Even though Black student enrollment in AP increased by

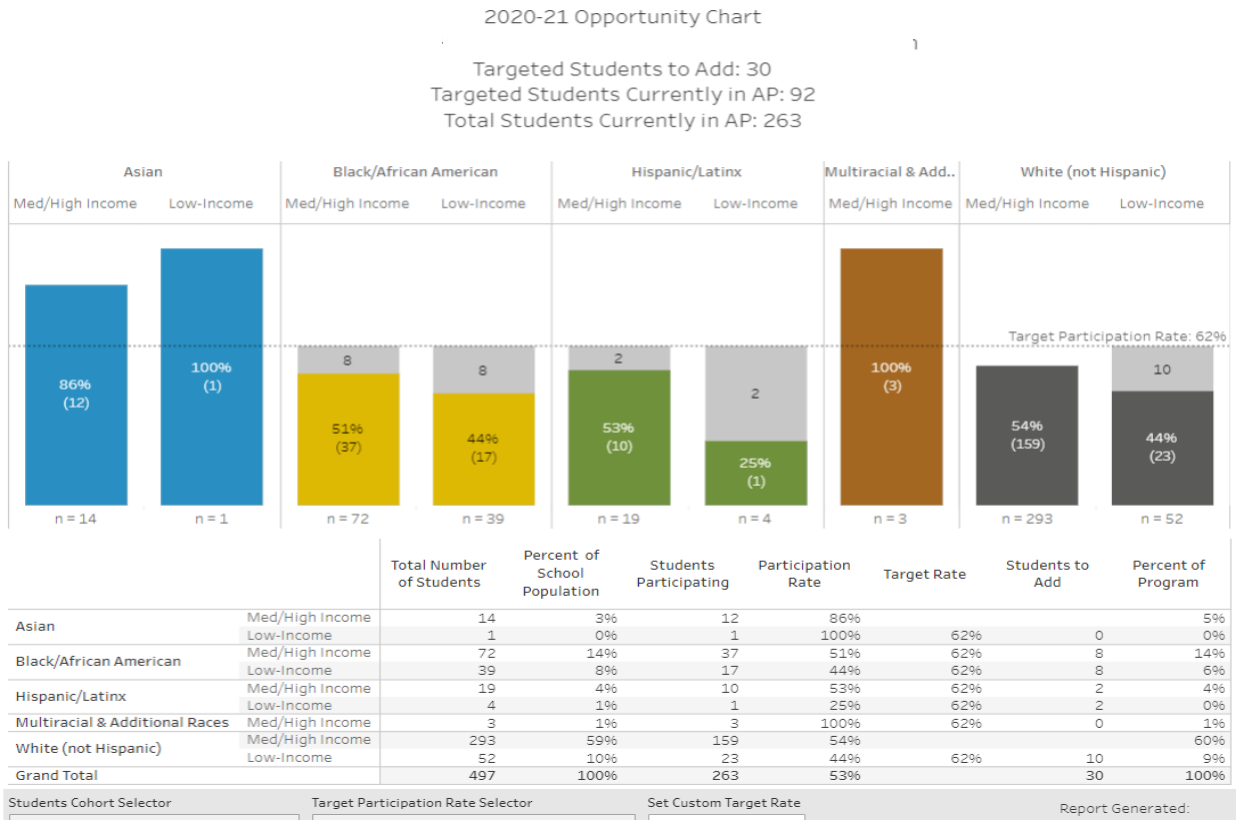
[6] The name of the school building has been changed to a pseudonym to protect the confidentiality of staff and students.

1% (12.8 to 13.8%) from 2018 to 2019, it still was not commensurate with the school demographics of 17% black students. Working with EOS, the staff at RHS hoped to have more positive results in a shorter time frame.

Figure 5 shows that even after working with EOS for many years, there continued to be an opportunity gap among students at RHS. The demographics of eleventh and twelfth grade students participating in AP in 2021 at RHS were 68.5% White and 15.3% Black. While these numbers are closer to the school's demographics for these grades, they are still not representative of the overall school demographics (RHS school data, 2021). The gray area in Figure 5 below indicates the number of students in the different demographic areas who would need to enroll in an AP course to close the gap and mirror school demographics. By identifying the number of students missing in AP courses, school staff can begin to target efforts in order to reduce gaps.

Figure 5

EOS 2020-21 Opportunity Chart for River High School



		Total Number of Students	Percent of School Population	Students Participating	Participation Rate	Target Rate	Students to Add	Percent of Program
Asian	Med/High Income	14	3%	12	86%			5%
	Low-Income	1	0%	1	100%	62%	0	0%
Black/African American	Med/High Income	72	14%	37	51%	62%	8	14%
	Low-Income	39	8%	17	44%	62%	8	6%
Hispanic/Latinx	Med/High Income	19	4%	10	53%	62%	2	4%
	Low-Income	4	1%	1	25%	62%	2	0%
Multiracial & Additional Races	Med/High Income	3	1%	3	100%	62%	0	1%
White (not Hispanic)	Med/High Income	293	59%	159	54%			60%
	Low-Income	52	10%	23	44%	62%	10	9%
Grand Total		497	100%	263	53%		30	100%

Students Cohort Selector | Target Participation Rate Selector | Set Custom Target Rate | Report Generated:

Causes of Disproportionate Enrollment in AP Courses

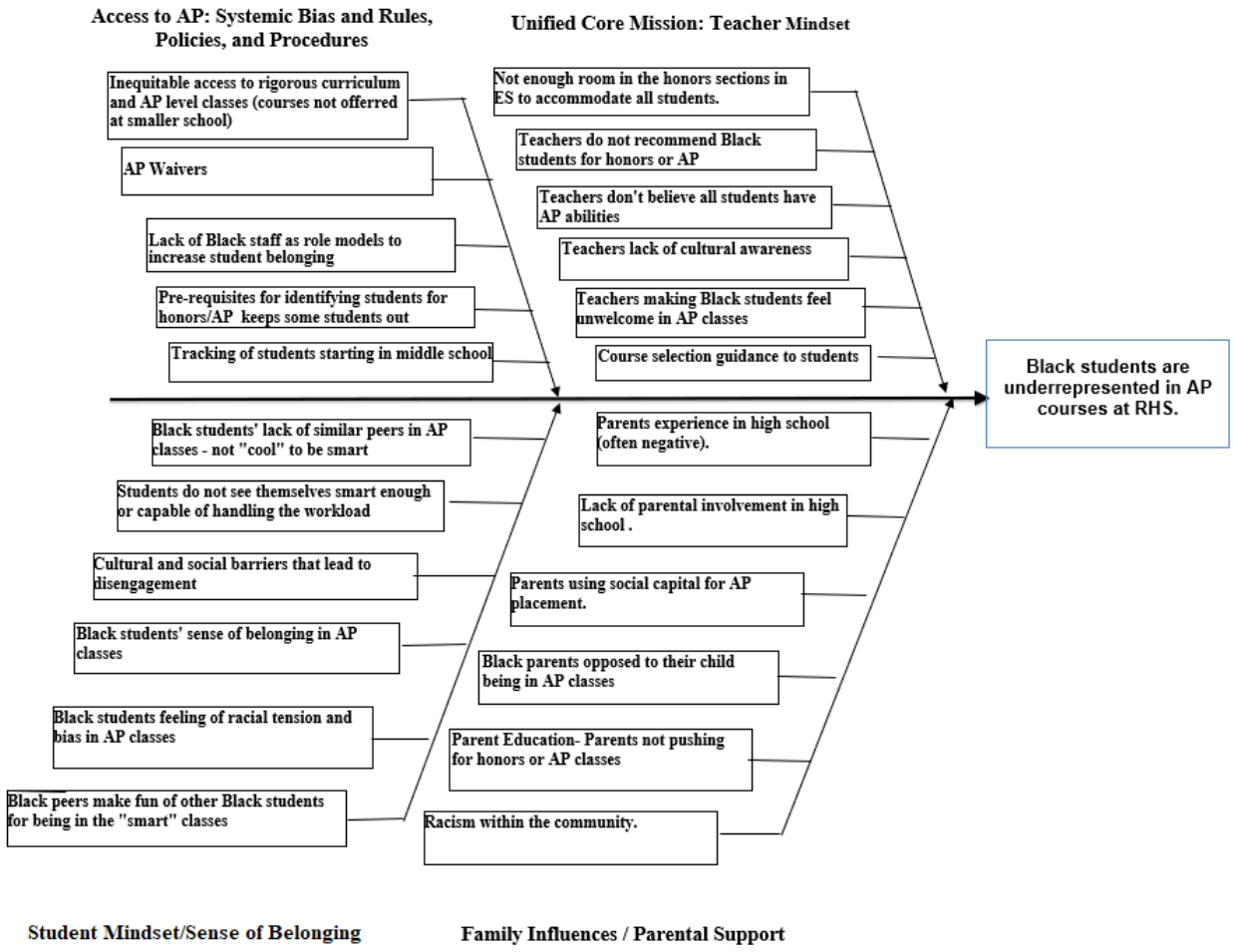
There are many factors that can influence a student's decision to enroll in an AP course in high school. The AP program, as mentioned before, was developed as a way to address concerns that students were entering college unprepared and having to repeat courses they took in high school due to lacking the requisite skills and rigor needed for college curriculum (Santoli, 2002; College Board, 2022). At the outset, the creation of the AP program purposefully sorted and separated the best and brightest students (Schneider, 2009; College Board, 2022), and they more often than not were White and affluent. Ever since then, students enrolled in AP courses continue to typically be Whiter and more affluent (Klopfenstein, 2004; National Center for Education

Statistics, 2023). A further problem, as noted in the College Board Annual Report (2014 and 2023), is that some 60% of high school students nationwide do not participate in an AP course for which they have high potential, regardless of ethnicity or economic status. While the number of students taking AP courses and exams doubled from about 2003 to 2023, the data still show a gap in enrollment with respect to underrepresented students even today (Klopfenstein, 2004; VanSciver, 2006; Moore & Slate, 2008; College Board, 2014; Griffin & Dixon, 2017; College Board, 2023; National Center for Education Statistics, 2023).

My Causal Systems Analysis (CSA) reveals key practices, policies, and approaches that could contribute to the low enrollment of Black students in AP courses. These causes are complex and many are outside of the school system's control, but there are several areas the school can address, as illustrated in Figure 6. The main causes that were the focus of my literature review as they relate to the underrepresentation of Black students in AP courses were: Access to AP, including systemic bias and rules, policies, and procedures; unified core mission: teacher mindset; student mindset/sense of belonging; and family influences/parental support. These areas represent the greatest disparity between Black students and their fellow students when examining the enrollment gap in higher-level classes (Equal Opportunity Schools, 2018; Equal Opportunity Schools, 2020).

Figure 6

Causes of Disproportionate Enrollment in AP Courses at RHS



Access to AP Classes: Systemic Bias and Rules, Policies, and Procedures

The first major factor, access to AP classes, examines the process that students experience as they are tracked into or out of honors and ultimately AP classes. In the past, South County staff used certain criteria to determine if a student was eligible for honors level classes. The criteria used to initially identify students in elementary school for honors classes in fourth grade was based on student's Cognitive Abilities Test (CogAT) from second grade, state test scores from third grade, yearly student MAP scores, and class grades. A maximum of 25 third

grade students were identified as eligible for honors level classes in elementary school. This led to many students being overlooked for honors and subsequent lower expectations for those students in standard level classes in elementary school. As students entered middle school, standardized assessment data, MAP scores, class grades, and qualitative factors, including if a student was in the elementary honors program, were used to determine enrollment in Honors English Language Arts (ELA) in 6th grade and Honors Math 6.

Once students are placed in this type of tracked system, it becomes difficult to move into a more rigorous track (Burris & Garrity, 2008; Smith & Johnson, 2021). As students continue to be placed in standard-level courses, achievement gaps begin to widen as the skills needed to reach the more rigorous curriculum found in honors level classes are lacking. Lower-tracked students "suffer clear and consistent disadvantages from tracking" (Burris & Garrity, 2008; Smith & Johnson, 2021). Among students identified as average or slow, tracking often appears to retard academic progress, as these labels tend to categorize children, which leads to students' negative perceptions of themselves and ultimately limits opportunities for learning (Burris & Garrity, 2008; Oakes, 2000; Smith & Johnson, 2021; National Center for Education Statistics, 2022). In a 2019 interview, the SCPS Director of Secondary School Improvement stated that stakeholders (parents, teachers, administration) often set lower expectations for students based on their home situation or other environmental factors. Once students become grouped based on their perceived ability, they tend to stay in these groupings as they move throughout school. By the time students enter high school, it is often too late to change their academic behaviors, perceptions toward school, and self-efficacy (Johnson, 2019). SCPS leadership recognized the issue that tracking was creating and recently changed the identification process, making

elementary honors identification more inclusive by not limiting the number of seats identified as honors at the elementary level.

In addition to tracking, another barrier in high schools with smaller student populations, such as River High School, is inequitable access to rigorous courses. Smaller schools are often limited in their AP course offerings, as classes cannot be included in the schedule if too few students enroll in that course, so an AP class without enough students will be cut from the schedule (College Board, 2014; College Board, 2020). This issue continues to be significant, as a 2021 report from the Center for American Progress highlights that many high schools, particularly those in rural areas, struggle to offer a wide range of AP courses due to low student enrollment and limited resources (Chatterji, Campbell, & Quirk, 2021). A lack of available online classes, which would allow students in smaller high schools to still participate in the course even if it was at a different high school, contributes to this problem. Pre-pandemic this was often the case. Online learning has become an option for some classes since COVID-19, with more online/distance learning options being implemented in the high schools (SCPS Educational Planning Guide, 2022).

A 2021 report from the U.S. Department of Education emphasized the need for schools to reimagine their education systems to ensure all students have access to rigorous coursework. Furthermore, Chaudhary, in a 2022 article, discusses the ongoing challenges and opportunities in addressing educational inequities, particularly in the wake of the COVID-19 pandemic. The COVID-19 pandemic has exacerbated existing educational inequities, creating significant challenges for students, educators, and policymakers. One of the most pressing issues is the digital divide that emerged as schools shifted to remote learning. Many students, particularly those from low-income families, lacked access to necessary technology and reliable internet.

This gap limited their ability to participate in virtual classrooms and complete assignments, further widening the achievement gap (Chaudhary, 2022). Students of color and those from marginalized communities faced additional barriers. The pandemic has revealed systemic issues within educational systems, emphasizing the importance of creating equitable access to resources. Schools must prioritize funding for underserved areas to ensure all students have the tools necessary for success (Chaudhary, 2022).

Unified Core Mission: Teacher Mindset

The mindset of staff also contributes to Black students not enrolling in AP courses. All people exhibit both implicit and explicit bias, and teachers are no exception (Flores and Gomez, 2011; Education Trust, 2022). Many educators knowingly or unknowingly hold mindsets that can be harmful to their students. Teachers may carry both explicit and implicit bias towards black students and the way they recommend them for AP classes. The philosophy of colorblindness can also be a muddling factor. Teachers who embrace this idea dismiss the existence of individual or structural racism, and they tend to blame character attributes of students as the reason for the disparate outcomes (Mayfield, 2021). A teacher's inequitable mindset can negatively shape students' own mindsets about their academic performance. Students hear the messages that convey our thoughts about their abilities. The worst part is, students may not realize they're internalizing this negativity, and negative opinions of them may follow them for the remainder of their academic careers (McKinney, 2023). By not recommending students for honors and AP courses, teachers can limit students' opportunities to experience rigorous classes. To compound the problem, in some cases the rigor of standard level classes is not enough to prepare students to take the leap to honors and AP level classes, while in other courses the curriculum of the standard and honors classes are exactly the same.

In this system, teachers act as gatekeepers for higher level courses, making it more difficult to identify and enroll underrepresented students in advanced classes, even though the equity training staff in the SCPS system receives that aims at addressing these ideologies. Most students who participate in AP classes have been in honors courses before beginning high school. Students without this experience are often at a disadvantage, as it is very difficult, and they might have a harder time handling the rigors of AP without some scaffolding. Combating inequities in access to Advanced Placement (AP) courses poses significant challenges for educational institutions, particularly when identifying students who may have been overlooked by traditional pathways that suggest a higher likelihood of AP success. As noted by VanScriver (2006) and EOS (2020), many schools struggle to initiate effective identification processes. Moreover, Theokas and Saaris (2013) and College Board (2021) highlight a prevalent misconception that the absence of AP readiness is solely responsible for these missed opportunities. Recent research emphasizes the need for schools to adopt a broader understanding of readiness that transcends conventional indicators, advocating for comprehensive strategies to ensure all students, regardless of background, have equitable access to AP coursework (Woods, Garcia, Lee, 2020; Bell, Johnson, Smith, 2021). Such efforts require a commitment to redefining success metrics and implementing proactive outreach initiatives aimed at fostering an inclusive educational environment (EOS, 2021).

The mindset of educators can significantly influence Black students' enrollment in Advanced Placement (AP) courses. All individuals exhibit both implicit and explicit biases, including teachers (Flores & Gomez, 2011; Education Trust, 2022). Many educators may consciously or unconsciously harbor mindsets that can negatively impact their students. This includes both explicit and implicit biases directed towards Black students, which can affect how

teachers recommend them for AP classes. The philosophy of colorblindness further complicates this issue. Educators who adopt this perspective often dismiss the realities of individual or structural racism, attributing disparities in academic outcomes to students' character traits instead (Mayfield, 2021).

A teacher's inequitable mindset can adversely affect students' perceptions of their own academic abilities. Students are attuned to the messages conveyed about their capabilities, and unfortunately, they may not recognize that they are internalizing negative views from educators. These perceptions can persist throughout their academic journeys (McKinney, 2023). When teachers refrain from recommending students for honors and AP courses, they restrict these students' opportunities to engage in rigorous academic experiences (Education Trust, 2022; McKinney, 2023). This problem is further intensified by the rigor of standard-level classes that may not adequately prepare students for the challenges of honors and AP courses. In some instances, the curricula of standard and honors classes in SCPS are indistinguishable.

In this educational ecosystem, teachers serve as gatekeepers for higher-level courses, making it challenging to identify and enroll underrepresented students in advanced classes, despite the equity training provided to staff in the SCPS system aimed at addressing these biases. Most students enrolled in AP courses have prior experience in honors classes before entering high school. Those lacking this background often face disadvantages, struggling to manage the demands of AP coursework without adequate support.

Addressing inequities in access to AP courses presents significant challenges for educational institutions, particularly in identifying students who have been overlooked by traditional pathways that suggest a higher likelihood of success in AP courses. As highlighted by VanScriver (2006) and EOS (2020), many schools encounter difficulties in establishing effective

identification processes. Furthermore, Theokas and Saaris (2013) and the College Board (2021) underscore a common misconception that a lack of AP readiness is the sole reason for these missed opportunities. Recent research advocates for schools to adopt a broader definition of readiness that extends beyond conventional indicators, promoting comprehensive strategies to ensure equitable access to AP coursework for all students (Woods, Garcia, & Lee, 2020; Bell, Johnson, & Smith, 2021; Equal Opportunity Schools, 2022).

These initiatives necessitate a commitment to redefining success metrics and implementing proactive outreach efforts to cultivate an inclusive educational environment (Equal Opportunity Schools, 2021). A 2021 report from the U.S. Department of Education stresses the importance of reimagining education systems to guarantee that all students can access rigorous coursework.

Family Influences/Parental Support

Parental support is essential for students' academic success, especially in challenging educational environments like Advanced Placement (AP) courses. Research shows that active parental involvement leads to better academic performance. However, many Black parents often feel marginalized by the educational system due to negative past experiences, creating a disconnect that can hinder their child's academic achievements (St. Mary, et al., 2018). This disconnect is further exacerbated by systemic inequities that persist in educational institutions, which can lead to a lack of trust and engagement from these parents. Recent studies, including those by Anderson (2021) and Roberts (2022), highlight the importance of culturally responsive practices in schools to foster better relationships with Black families. These practices not only validate the experiences of Black parents but also encourage their active participation in their children's education, ultimately promoting academic success. A study by Ford, Smith, & Johnson

(2021) highlights that systemic barriers and racial biases contribute to feelings of exclusion among Black parents, which can obstruct meaningful engagement and negatively impact academic outcomes. By addressing these historical grievances and implementing supportive measures, educational systems can create a more inclusive environment that uplifts Black families and enhances student outcomes.

Socioeconomic factors significantly influence parental involvement in education, particularly in advanced placement (AP) classes. Robinson and Ochs (2003) established a connection between a student's enrollment in AP classes and their family's socioeconomic status, and recent research by Johnson, Smith, & Lee (2021) highlights a correlation between a student's participation in AP courses and their family's socioeconomic background. Students from low-income families often encounter barriers such as limited access to educational resources, including tutoring and enrichment programs, which can impede their enrollment in and success in AP classes. This lack of support not only affects academic performance but also diminishes the likelihood of college readiness, thereby perpetuating cycles of disadvantages in education (Johnson, Smith, & Lee, 2021).

Parental support encompasses more than academic assistance; emotional encouragement is also vital. According to Saunders and Maloney (2004), Garcia and Thornton (2022), and Wilder (2023), students whose parents actively engage in their learning tend to perform better in rigorous academic settings. This support is especially critical for students facing systemic barriers, as it can help mitigate the challenges they encounter (Henderson and Mapp, 2023). Recent research post-2020 has identified effective strategies for enhancing parental involvement, particularly in marginalized communities. Hill and Tyson (2021) emphasize culturally responsive communication between schools and families, which fosters trust and collaboration.

This approach allows schools to better inform parents about resources, such as AP courses and academic support programs, and involve them in decision-making processes, ultimately improving academic outcomes.

Additionally, Johnson et al. (2022) focused on community-based initiatives aimed at increasing parental engagement, providing workshops and resources that educate parents about academic pathways, including AP classes. Tailored support from schools has been shown to increase both parental involvement and student enrollment in advanced courses.

Addressing the barriers that many Black parents face in engaging with the educational system is essential for creating a more equitable academic environment (Henderson and Mapp, 2023). Strategies that promote effective communication and collaboration between schools and families can empower parents and enhance student achievement (Garcia and Thornton, 2022). Continued community efforts are necessary to ensure that every student, regardless of background, has the opportunity to succeed in challenging academic settings.

Student Mindset/Sense of Belonging

Research indicates that academic tracking, lower teacher expectations, and insufficient resources significantly worsen systemic barriers for underrepresented students (The Education Trust, 2020; Darling-Hammond et al., 2021; Lee, 2021). Additional studies suggest that student motivation, perceptions of success, and the sense of belonging within the school community may play crucial roles in the decision to enroll in Advanced Placement (AP) courses (Gonzalez, 2021; Zinth, 2021). The concept of student mindset, particularly self-efficacy, has been explored by contemporary researchers, contributing to our understanding of the challenges involved in increasing enrollment in rigorous coursework such as AP classes.

Self-efficacy refers to an individual's belief in their ability to perform tasks effectively to achieve specific goals. It centers on a person's assessment of their competence within a particular context, emphasizing their ability to execute certain tasks relative to set goals and standards, rather than comparing themselves to others (Bandura, 2021; Schunk & Zimmerman, 2021). A person's achievement choices are influenced not only by their expectations of success and the perceived value of the task at hand but also by their sense of belonging within the educational environment (Schunk & Zimmerman, 2021). This expectancy-value model of achievement motivation posits that students are more inclined to enroll in a course if they anticipate success in it and feel a strong connection to their peers and teachers.

When analyzing AP enrollment disparities through the lens of the expectancy-value model, it appears that one reason for the ongoing disparities in AP enrollment may be that White students have historically occupied upper-level classes, have experienced success in these environments, and possess a higher level of self-efficacy compared to Black students. Furthermore, the sense of belonging that White students often experience may reinforce their confidence and motivation, potentially exacerbating the enrollment gap (Schunk & Zimmerman, 2021). Wigfield and Eccles (2000) explain that there are multiple factors that influence a student's achievement-related choices. Not all of these components can be addressed by the school system, but they are key to understanding why some students challenge themselves in school and others do not. A student's culture, their previous school experiences, and their intrinsic motivation combine in different ways to create a student's expectation of success, and ultimately their achievement-related choices.

Students of color, non-traditional, and low-income students frequently experience challenges in feeling a sense of belonging in advanced courses, such as Advanced Placement

(AP) classes (Equal Opportunity Schools, 2023). The concept of belonging encompasses the degree to which students feel personally accepted, included, and supported within their school environment. This includes their experiences at school, relationships with teachers and peers, and their overall feelings toward school (Goodenow & Grady, 1993; Equal Opportunity Schools, 2023). From early elementary school, students begin to develop their sense of belonging, which plays a crucial role in shaping their self-value and self-worth. A strong sense of belonging significantly influences whether students choose to enroll in AP courses. Many students, particularly those from minority backgrounds, often harbor doubts about their suitability for AP courses if they have not previously participated in higher-level classes (Broad Prize, 2021).

Students who perceive a lack of belonging may feel ill-equipped to take on the challenges of more rigorous coursework. Walton and Cohen (2007) and Johnson (2023) highlighted the feelings of uncertainty that students might experience when entering new social and academic contexts, such as taking an advanced class for the first time. This uncertainty regarding belonging can lead to disengagement and adverse academic results (Johnson, 2023). Conversely, a strong sense of belonging correlates positively with academic achievement and persistence in coursework (Walton & Cohen, 2011).

Moreover, an important factor for students of color is the fear of being ridiculed by their peers. Black students often face internal conflict regarding the perception of "Acting White," which can deter them from enrolling in AP classes (Bergin & Cooks, 2002; Johnson, 2021). Fordham and Ogbu (1986) defined the social theory of “Acting White” as behaviors such as speaking standard English, being punctual, achieving high grades, and spending time in academic settings like libraries. Recent studies have continued to explore these dynamics,

emphasizing the need for inclusive environments that support all students in advanced academic settings (Smith & Lee, 2022; Johnson, 2023).

Theory of Improvement

My theory of improvement was grounded in the research conducted by Klopfenstein (2004), Wigfield and Eccles (2000), Walton and Cohen (2011), EOS (2020), and Smith, Johnson, & Garcia (2021) which collectively underscores the critical need for all students to have access to rigorous and equitable curricula and feel a sense of belonging in advanced classes, thereby contributing positively to their academic and personal development.

Aim Statement

The long-term goal of the improvement initiative was to increase the number of first-time students in Advanced Placement (AP) courses at River High School (RHS) and to enhance students' sense of belonging in these courses, with a specific focus on Black students. By the end of the 2027-28 school year, we aim for Black students to be represented in AP courses in demographics that reflect the overall school population.

With the long-term aim as the goal, improvement efforts began in one SCPS high school, RHS, under the guidance of myself and the school leadership team at RHS. The sections below describe the theory of improvement that will lead to the development of a specific change at RHS, aimed at increasing the enrollment of Black first-time AP students and enhancing their sense of belonging in AP courses.

Improvement Drivers

Based on the research reviewed, I identified three primary drivers for improvement that would help me reach my aim: to increase the enrollment of Black first-time AP students and enhance their sense of belonging in AP courses. Access to AP classes, a unified core mission to

instill a shared positive teacher and student mindset that increases Black student's sense of belonging, and providing supports for all students to succeed in AP coursework will all help increase student numbers in AP courses as well as narrow the achievement gap (Broad Prize, 2013; Broad Prize 2021; Equal Opportunity Schools, 2021). Figure 7 below describes the primary drivers that lead toward the goal of increasing enrollment improve their sense of belonging of Black students in AP courses. This study focused on the second driver, a unified core mission to instill a shared teacher and student mindset to increase student sense of belonging and to provide access to a rigorous education for all students while increasing the percentage of Black students enrolled in AP classes commensurate to the schools' demographics. This driver will be explained in further detail.

Figure 7

Primary Drivers to Increase Black Student Enrollment in AP

Aim	Primary Drivers	Secondary Drivers	Tertiary Drivers
To achieve equity in Advanced Placement enrollment at RHS by increasing the percentage of Black students enrolled in AP classes each year so that Black students are more representative of school demographics (17.6%) by 2028.	**Access to AP Classes**: Use a systematic approach to identify students missed, change criteria for identifying students with AP potential.	**Rigorous Curriculum**: Develop skills that students need to succeed honors to prepare students to take AP classes	• Development of critical thinking workshops • Implementation of writing skills enhancement
		Implement instructional practices that support development of student skills.	• programs • Integration of subject-specific study strategies • Creation of collaborative learning environments
		Build support into the daily schedule (AP Seminar, Seminar for Advanced Studies, study groups, peer mentors).	• Peer mentoring systems matching experienced AP students with new enrollees • Organized study groups with faculty supervision • Implementation of Seminar for Advanced Studies as a support mechanism
	Unified Core Mission: Instill a shared teacher and student mindset to increase student sense of belonging and to provide access to a rigorous education for all students while increasing the percentage of Black students enrolled in AP classes commensurate to the schools' demographics.	**Lead Higher Initiative at RHS**: Staff use an equitable lens to identify students with AP potential and share the belief that students will succeed if given encouragement and supports.	**Staff** identify non-traditional students for AP through the "Lead Higher" program methods • Data-driven student potential identification • Creation of systematic outreach programs • Development of student success tracking metrics
		Identification of Students with Advanced Placement Potential **Sense of Belonging:** Foster a sense of belonging schoolwide that all students can succeed and should be encouraged to take AP classes.	**Teachers** cultivate inclusive practices and policies that address the specific needs of underrepresented groups in AP classes. • Cultural competency training for faculty • Development of culturally responsive teaching methods
		Develop Mindset of Teachers and Students That Encourages All Students to Take and Succeed in AP Coursework: Foster a supportive, trusting, and encouraging atmosphere in and out of the classroom.	**Teacher/student and student/student relationships**: • All students feel valued and supported • Enhancing student readiness to engage in rigorous coursework • Peers influence how students see themselves as learners, positively or negatively, and influence academic decision-making
		Adopt a Formal Tiered Approach to Support Students in AP Courses Encourage the belief that students can succeed in higher-level classes.	• Rigorous curriculum • Personalized learning environment • Balance of academic and social supports for students • Alignment of curriculum between levels (high school and college)
	AP Student Support: Develop supports for all students to succeed in AP coursework.	**Teacher feedback**: Provide students with supports and checkpoints of progress via structured conferencing.	**Individualized meetings with students** • Bi-weekly progress conferences • Structured academic goal-setting sessions • Regular performance assessments • Individualized learning plan development
		External, additional supports: Increase availability of tutoring, study groups, mentoring, AP bootcamp.	**Provide funding and transportation** • After-school tutoring programs with qualified instructors • Peer-led study groups with faculty oversight • Mentoring programs with staff and connecting students with AP alumni • Summer AP preparation bootcamps
		Instructional practices: Increase practices that support development of student skills.	• Implement growth mindset messaging in daily instruction • Create a supportive classroom environment that normalizes struggle and effort • Establish peer study groups • Schedule regular check-ins with struggling students

Primary Driver 1: Access to AP Classes. First, the shift that leads to access to AP will need to be systematically established for students beginning in elementary school. In elementary school, students often begin to form their sense of identity and stakeholders such as parents, teachers, and administrators begin to classify students according to ability (College Board,

2023). By the time students tracked into lower-level courses enter high school, the impact on their self-efficacy and academic trajectory can be significant, particularly for minority students. Research indicates that without early encouragement and exposure to rigorous curricula, these students may find themselves ill-equipped to meet the prerequisites for Advanced Placement (AP) courses (Hernandez, 2021). To prepare all students, especially those from underrepresented backgrounds, for the challenges of AP coursework, it is essential to implement a curriculum that is both demanding and supportive. Such a curriculum should not only challenge students academically but also foster the necessary skills and confidence to succeed in higher-level courses. Early intervention and a commitment to high expectations can help bridge the gap, ensuring that all students are given a fair opportunity to excel in their academic pursuits (Smith & Johnson, 2022). Instructional practices that support the development of student skills give students the foundation they will need to successfully study the material in AP coursework. Assigning a teacher to mentor students is a key secondary driver. Students will need feedback on their progress and encouragement when they experience difficulties.

Primary Driver 2: Unified Core Mission. The second driver, and one of the most difficult to address, is aligning the mindset of teachers, parents, and students behind a unified core mission. A significant challenge in educational institutions is aligning the perspectives of teachers, parents, and students around a unified core mission. This alignment is essential for promoting equity and representation in Advanced Placement (AP) classes. Burris and Garrity (2008) and Domina, et al. (2019b) emphasize the importance of a common educational goal in creating an inclusive academic environment. Such a culture greatly influences students' opportunities to enroll in and succeed in AP courses, which can transform their educational trajectories.

Self-efficacy of students and teachers is also a critical factor that operates on three interconnected levels. First, students must believe in their own learning capabilities, which can be nurtured through a supportive school culture that values diversity and inclusivity. Second, teachers need confidence in their ability to positively impact student learning. Trust within educational environments is crucial, as highlighted by Tschannen-Moran and Hoy (2001), who found that trust affects collaboration among educators, student engagement, and overall school climate. Recent research by Kraft, Marinell, & Shen-Gupta (2020) and Dwyer and Gibbons (2022) further supports the notion that trust is vital for fostering a supportive learning environment, thereby enhancing educational outcomes.

The collective efficacy of the staff is also essential. Studies by Goddard, Salloum, & Berebitsky (2009) and Klusmann, et al. (2021) show that trust within a school community correlates strongly with student achievement, especially in lower socioeconomic populations. This underscores the need for a cohesive school culture where all staff members believe in their ability to support student learning.

A sense of belonging is another pivotal aspect of a unified core mission. Research by Walton and Cohen (2020) indicates that students who feel they belong in their educational institutions demonstrate improved academic performance and engagement. This sense of belonging can be cultivated through inclusive practices and policies that address the specific needs of underrepresented groups in AP classes. Schools must actively promote an environment where all students feel valued and supported, which, in turn, enhances their readiness to engage in rigorous coursework.

Furthermore, the perception of school climate influences teachers' beliefs about their capacity to affect student performance. Tschannen-Moran and Hoy (2007) and Kraft et al. (2020)

argue that teachers in a positive school climate experience higher professional satisfaction and effectiveness. Thus, fostering a collaborative and supportive environment is crucial for enhancing both teacher efficacy and student outcomes.

A unified core mission that emphasizes trust, self-efficacy, and a sense of belonging is vital for promoting equity in AP courses. Schools should prioritize the development of a culture that encourages active participation from all stakeholders in the educational process. By doing so, they ensure that every student has the opportunity to succeed in advanced academic endeavors, enriching the educational landscape for all.

Lead Higher Initiative at RHS

From 2017-2024, SCPS partnered with Equal Opportunity Schools (EOS) to identify underrepresented (Black) students who may have been missed as having AP potential. This program, nicknamed "Lead Higher", aimed to look beyond test scores into the heart of why students are not signing up for higher-level classes. Each year, the RHS Instructional Leadership Team identified students who were not currently in honors or AP classes. All staff and students completed a yearly survey to gain insight into their perception of student abilities as well as the school and SCPS system infrastructure. An individual scorecard for each student provided information about their learning mindsets and skills, education goal, career interest, AP subject interest, GPA, test scores, barriers to learning, and comments from the student. This information was used by school staff each year to strategically identify "non-traditional" students who possess the skillset to be successful in honors and AP classes. Designated staff (trusted adults) then began to lay the groundwork and mentor these students and encourage them to enroll in an honors or AP course the following year. Staff also completed home visits and called parents to encourage them to have their students sign up for an honors or AP course based on these

recommendations. This strategy was met with some success as an increase in the number of students enrolling in AP courses occurred. For example, during the 2021 school year, 181 students took an AP course for the first time and 170 students took an honors course for the first time. However, the number of students had dropped to 102 first time AP students in 2024, with only 34 of them designated as officially identified as an underrepresented student and part of this Lead Higher program. Even though the overall school population has slowly decreased in the last several years, the number of students electing to not take an AP course has decreased disproportionately.

Identification of Students with Advanced Placement Potential

The Gates Foundation studies show that high-quality schools can take many forms, but they share common elements: strong leadership, effective instruction, rigorous curricula, data that can be used systematically to improve the classroom experience, and broad support to help all students achieve (Shear, et al., 2008; Lichtenstein, 2021). In 2004, slightly more than 70% of students graduated from high school nationwide (Editorial Projects in Education, 2008; National Center for Education Statistics, 2021), with graduation rates for Black, Hispanic, and low-income students significantly lower at around 50 percent (Greene & Winters, 2005; National Center for Education Statistics, 2021). Even with a diploma, only half of graduates leave high school prepared to succeed in college, career, and life (Greene & Winters, 2005; Evans, Smith, & Johnson, 2022). Recent studies, such as those by the National Center for Education Statistics (2021), indicate that despite efforts to improve these rates, the gap remains, prompting further examination of the factors contributing to educational inequity. Addressing these disparities is crucial for fostering an inclusive educational environment where all students have the opportunity to succeed.

Once a student is in high school, the Preliminary SAT (PSAT) is one tool that can be used to identify students for AP as portions of the PSAT are significant predictors of AP test performance, and ethnicity and socioeconomic status are not a limiting factor using this method. The PSAT measures skills students are developing in Grades 9 and 10 that translate to student success in AP courses in Grades 11 and 12 (Richardson, et al., 2016).

As stated previously, one measure of academic rigor is AP coursework, and having a transcript with even one AP course nearly doubled the likelihood of a student graduating from college; another study showed passing AP exam scores correlated to higher high school GPAs, credit hours earned, and higher high school four-year graduation rates (Hargrove, Godin, & Donn, 2008; Lichtenstein, 2021). The key is to find a way to measure student likelihood for success in even earlier years. There is a need to provide individual support and develop resilience among low-income, high-ability students as early as possible. A student's cultural background as well as their parents' income and profession all affect student enrollment in higher-level courses. Social and psychological factors of African-America students, including peer pressure and racial identity, need to be considered as much as the indicators used to find potential AP students. Klopfenstein (2004) and Lichtenstein (2021) noted that more female students tend to participate in AP courses than male students. Burney and Beilke (2008) and Reardon (2021) discuss how poverty may be the most important of all student differences in relation to high achievement; although not all schools have racial diversity, nearly all schools have at least some students living in poverty. Klopfenstein (2004) and Jenson (2022) discuss the intersection of poverty and educational outcomes, suggesting that the challenges posed by economic disparities, for example how low-income students frequently face the necessity of

working after school, which limits their time and financial resources to engage in AP courses, remain prevalent and deeply affect students' academic trajectories.

Develop Mindset of Teachers and Students That Encourages All Students to Take and Succeed in AP Coursework

High school students face a myriad of social, emotional, physical, and intellectual challenges that cause them to feel overwhelmed, confused, and alone. Learning mindsets are the beliefs that influence how a person approaches learning tasks, goals, and environments (Equal Opportunity Schools, 2021). These beliefs influence how we behave and the choices we make in learning settings (Equal Opportunity Schools, 2021). School staff members are integral to supporting and fostering learning mindsets in a school's culture (Equal Opportunity Schools, 2021; Seo & Lee, 2021).

Psychologists Erik Erikson and Jean Piaget have done extensive research on how humans develop and their cognition. Erickson presented a developmental view that encompasses eight stages: trust versus mistrust (infancy); autonomy versus shame and doubt (1 to 3 years); initiative versus guilt (3 to 5 years); industry versus inferiority (6 years to puberty); identity versus identity confusion (10 to 20 years); intimacy versus isolation (20s and 30s); generativity versus stagnation (40s and 50s); and integrity versus despair (60s onward). Individuals are confronted with a crisis at each stage that they must resolve, and the more successfully the individual resolves their crisis, the more psychologically healthy that person will be. In addition, peer mindsets can have an enormous influence on an individual's feeling of worth (Santrock, 2008; Sheffler & Chung, 2020).

In the adolescent years, students in middle and high school are in the fifth stage of development, in which they experience identity versus identity confusion (Santrock, 2008). In

this stage, students are exploring the world around them, figuring out who they are, and deciding the ultimate path they will choose in life (Santrock, 2008; Santrock 2019). If students are not guided positively while going through this process, they may remain in identity confusion for an even longer period of time (Bandura, 1997; Santrock, 2008; Sheffler & Chung, 2020).

Piaget proposed a theory regarding how new knowledge is incorporated with prior knowledge as children move from birth through adulthood (Santrock, 2008; Sheffler & Chung, 2020). He saw these transitions as taking place in four distinct stages: the sensorimotor stage (birth to 2 years); preoperational stage (2 to 7 years); concrete operational stage (7 to 11 years); and formal operational stage (11 to 15 years). Ninth graders are in the formal operational stage but are adolescents and are undergoing the difficult transition from middle school to high school. Piaget proposed that children's thinking does not develop entirely smoothly; instead, there are certain points at which it "takes off" and moves into completely new areas and capabilities. He saw these transitions as taking place in four distinct stages and that before each stage, children are not capable (no matter how bright) of understanding concepts in certain ways (Santrock, 2008; Santrock, 2019).

Piaget believed that a student's cognitive growth was a gradual movement from one level to the next as long as the context was structured and students were allowed to make their experiences fit their schema (Risconscente, 2014; Santrock, 2019). Piaget's theory has been used as the basis for scheduling the current school curriculum and explains why adult support of students, particularly in the adolescent years, is so important. Without support, students are unable to meet the cognitive demands of their courses they are taking and are not earning the credits needed to graduate from high school. In some cases, students take a less rigorous course load as they are unable to meet the demands of the AP classroom (Flores & Gomez, 2011;

Schunk & Greene, 2020). Unfortunately, even with a diploma, only half of graduates leave high school prepared to succeed in college, career, and life (Kirst & Bracco, 2004; National Center for Education Statistics, 2021). Among those who do enter postsecondary education, many are ill-prepared academically (Kirst & Bracco, 2004; Equal Opportunity Schools, 2021). Up to 46 percent of students who enter higher education and some 60 percent of students who attend community colleges must first enroll in remedial, non-credit-bearing courses and programs (Kirst & Bracco, 2004), or they potentially drop out of school (Broad Prize, 2021).

Many factors can influence dropout rates, including the conditions of schooling, individual personality traits, home environment (Fine, 1987; Rumberger, 2020), and the economic context within which students live (National Research Council, 2001; U.S. General Accounting Office, 2002; Bowers, Sprott, & Taff, 2021). Urie Bronfenbrenner's ecological systems theory helps us to understand the social contexts in which children live, the people who influence their development, and how they relate to student learning (Santrock, 2008; Santrock 2019). It also explains the many factors that influence students' learning experience and why some students are more prone to dropping out of high school. This theory shows how different aspects of student life are interconnected.

Klem & Connell (2004) found that certain conditions in schools contribute to student success: high academic standards, meaningful and engaging curriculum, professional learning communities present in the school, and personalized learning environments (pg. 2). If these supports are in place, students will be more actively engaged and connected to the school, increasing the likelihood the student will complete school (Klem & Connell, 2004; Christenson, & Reschly, 2022). Positive relationships with their peers and staff members are key elements to engaging students in school (Marks, 2000; Smith & Lee, 2022). Research has demonstrated the

significant impact of peer influence on students' academic choices and performance in school settings, particularly regarding enrollment in advanced coursework. Studies indicate that students are more likely to pursue challenging academic paths when their peers demonstrate similar aspirations (Thompson & Rodriguez, 2021). Peer networks can significantly influence academic decision-making through various mechanisms, including information sharing, social support, and normative pressure. Recent research by Mitchell et al. (2023) found that students whose friend groups enrolled in advanced courses were 73% more likely to also enroll in similar courses, highlighting the powerful role of peer effects in academic advancement. Additionally, Zhang and Kumar's (2022) longitudinal study revealed that peer academic support networks contribute to both course selection patterns and subsequent academic achievement, with students in strong peer support systems showing 25% higher retention rates in advanced courses compared to those with limited peer connections.

How teachers view students' academic abilities and how students view their own abilities also plays a large role in developing a sense of belonging in AP courses. The cultural makeup of advanced courses nationwide does not match the diversity of the overall school population or of the country (VanSciver, 2006; Center for American Progress, 2021). Low expectations are often found in schools with a higher minority population. Students do not understand what decisions to make in terms of course selection and are not provided much guidance. Most students under-schedule themselves; they do not take classes that challenge them, which severely underprepares them for the future. And while they may get into college, many times these students do not make it to graduation. Parents of low-income students often trust the school to make important decisions regarding the academic future of their children (Jensen, 2009; Smith & Johnson, 2020). They are unsure how to advocate for their child in the academic setting, particularly when it

comes to enrollment in more rigorous classes. Burton, et al., (2002) and Lee (2021) state that students in minority groups are traditionally underrepresented in college and frequently experience one or more barriers to college education. Minority students who are not educationally or economically disadvantaged may encounter stereotyped expectations and treatment, which are themselves barriers. The Advanced Placement program offers the chance for some students to overcome barriers to college education. Teachers have a large impact on whether minority students participate in AP programs. Therefore, it is important to provide adequate training for AP teachers, so they are able to support these students and help them succeed. Fear of falling behind and lack of support are two barriers students express (EOS, 2020).

Flores and Gomez (2011) and EOS (2021) maintain that school staff must stop reinforcing the idea that AP courses are only for the top students. The shift to opening greater access to AP courses can only occur if school leaders support the active expansion of the AP program by creating the needed infrastructure to prepare students for AP rigor. AP expansion provides equitable and challenging educational opportunities for all students. There is still an achievement gap, but AP courses may be one tool used to reduce this gap. School leaders need to be willing to expand access to and encourage more students to take AP courses (EOS, 2021).

There are other ways school leaders can encourage teachers to be more supportive of increasing student enrollment in AP courses. By focusing on teacher development through the formation of a professional learning community of educators across content areas who discuss and share research-based instructional strategies, teachers will be more prepared with the resources they need to support students (Higgins & Katsipataki, 2015; Kraft et al., 2020). In addition, to improve the AP program, administration should include more teacher input in

decision making, an “AP culture” must be built with clear expectations and buy-in from all stakeholders, and teachers must be given more meaningful and ongoing professional development in teaching AP to diverse learners. Staff may worry about the quality of instruction given in AP courses with increased enrollment.

Glasser (1997) coined the term “choice theory” to explain why students choose whether to do well in school. He believes that a student’s lack of knowing and understanding how they function psychologically is the cause of school failure. Glasser uses “choice theory” to argue that the only person whose behavior we can control is our own. However, most people believe in a stimulus/response (SR) psychology (p. 17), where students simply react to a stimulus happening around them. In choice theory, information for the sake of learning is more important.

Glasser states that, “Choice theory teaches that we are all driven by four psychological needs embedded in our genes: the need to belong, the need for power, the need for freedom, and the need for fun. We can no more ignore these needs than we can ignore the food and shelter we must have for survival” (p. 19). Humans have the need to be satisfied, whether physically or emotionally. Glasser believes that if teachers learn how to use choice-theory concepts, students will be motivated to avoid the pain they often experience when they do not put forth effort in school and will seek to become satisfied instead. This is vastly different from current educational practices, where students simply suffer the consequences of their actions by either doing the work or not. Struggling students in the stimulus/response model will give up faster and in fact may never experience educational success.

Adopt a Formal Tiered Approach to Support Students in AP Courses

Martinez and Klopott (2003) completed a summary of four studies commissioned by the Pathways to College Network on preparing high school students for college. They found four main practices that lead to postsecondary success: a rigorous curriculum (such as AP), personalized learning environment, balance of academic and social supports for students, and alignment of curriculum between levels (high school and college). These practices are still important today. When teachers hold high expectations for students and provide challenging coursework, such as they would have in an AP class, students rise to the occasion; this includes students having a clear understanding of the learning objectives of the class (Klem & Connell, 2003; Smith & Johnson, 2021). Secondly, the more connections teachers make with students, the more engaged students become (Marks, 2000; Clark & Brown, 2022). When teachers understand their own frame of reference and how it impacts their instruction, they become better equipped to reach students where they are. These teachers are able to take into account students' prior knowledge and differentiate the instruction to meet their needs. Third, academic and social supports for students must be in place as they navigate through school. Having mentor teachers and students available provides stability and increases student engagement (Martinez & Klopett, 2002; Clark & Brown, 2022).

When students do not feel a sense of belonging in a classroom, they will do whatever they can to avoid it. Mentors are essential to creating intrinsic feelings of belonging (Klopfenstein, 2004), and the stronger the connections that educators establish with their students, the more engaged those students tend to be (Fredricks, Reschly, & Christenson, 2021). Recruiting and retention will be more effective if students' social-emotional development is addressed. Peers play an enormous role in determining whether a student enrolls in AP courses.

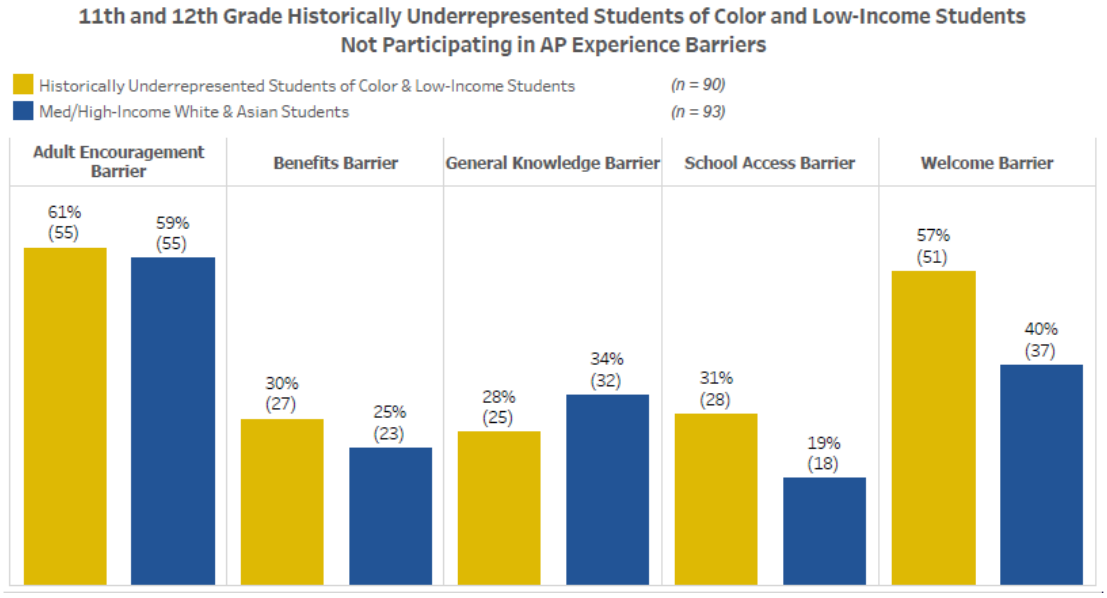
Multicultural education is a key component as well (Ford & Whiting, 2011; Davis, Lee, & Martinez, 2021). Shaunessy-Dedrick, et al. (2015) and Smith & Johnson, (2022) explained that students require supports in order to be successful in challenging classes. Students who have a strong work ethic and high achievement motivation as personal traits were more successful. They also relied on support from a broad network of peers, parents, and teachers to be successful in rigorous accelerated high school programs. Timmons (2009) and Smith (2021) discussed what happens when students are not challenged: they do not reach their full potential. He looked at supports that can be put in place to encourage students to enroll in higher level, honors, and AP classes and concluded that better supports for students attempting and succeeding in rigorous courses are the primary driver for success. Timmons (2009) stated, "The best practices found to promote student retention in challenging and AP courses, which are: educating parents, creating a college culture, tutoring, summer school, broader honors enrollment, identifying gifted underachievers, and offering online AP courses." (p. X). Gifted underachievers are more prevalent, and a bigger problem in high schools than commonly assumed (Timmons, 2009; Johnson & Lee, 2020) as the decision to enroll in higher-level courses is often left up to the individual student, and more often than not they choose not to achieve higher, unless they have a mentor who advises them differently (Timmons, 2009; Johnson & Lee, 2020).

Students at RHS in 2022 were asked why they were not participating in AP courses. The responses from 183 students in grades 11th and 12th in the figure below show the five main barriers they expressed. Benefits barrier, general knowledge barrier, and school access barrier are all similar in how they are impacting students but notice how important the adults in the building and student's feeling welcome (their sense of belonging) in the classroom are to whether or not they enroll in AP courses. This data was concerning for the leadership at RHS as

relationships with students was thought to be an area of strength for staff. This graph in Figure 8 however indicates that underrepresented students are not enrolling in AP courses at RHS because of adult encouragement and feeling welcome in those AP courses.

Figure 8

Barriers to Underrepresented Students Participating in AP During the 2022 School Year.



Primary Driver 3: AP Student Support. The third driver addresses AP student support. A formal tiered approach to student supports in AP courses is necessary (EOS, 2020). These supports must be built into students' daily schedule and provide additional opportunities outside of the school day as needed. At RHS, first-time AP students and students taking at least one AP course have two options for additional time and support. One class they are able to take is named Seminar for Advanced Studies (SCPS High School Planning Guide, 2022). This course is designed to teach students the writing and study skills they will need to succeed in AP courses. A separate course option, the AP seminar class, is only available for students enrolled in three or more AP courses and is an independent study time. Students can choose which class to take if

they have multiple AP courses, but since the AP seminar class is self-paced and monitored, many students do not use the time as effectively as they could as they lack the study skills needed for more rigorous courses. The Seminar for Advanced Studies class was created to provide direct instruction in those skills. The ILT has discussed at their meeting that more varied supports (such as tutoring, and study groups) need to be built into the schedule for all AP students. This tiered approach is critical to the success of all students, as all students have varied needs. Another secondary driver, external additional supports (comprised of tutoring, study groups, and mentoring), is critical for supporting students as they go through this process. Supports that help students develop the study and writing skills they will need to be successful need to be implemented in all classrooms. When students struggle, teachers need to be supportive, provide feedback, and provide assistance. Teachers and students need to develop a mindset of encouraging success in AP coursework.

The Barriers to AP Enrollment of Black Students Change Initiative

There are several reasons why Black students typically do not enroll in higher-level classes at the same rate as White students. Students' cultural background impact enrollment in higher-level classes. Black students are often accused of "acting White" and are ridiculed by their peers (Ford & Whiting, 2011; Odim & Carter, 2023). Being low income can also significantly affect students' decisions, but it is also essential to consider the influence of peer pressure and racial identity. (Klopfenstein, 2004; Center for American Progress, 2021). Minority students tend to be underrepresented because they lack the skills needed to survive the rigors of the program (Ndura, Robinson & Ochs, 2003; Center for American Progress, 2021). Schools that increase expectations for students, improve their climate, and provide support for students ultimately provide environments that help low income and minority students enroll in and be successful in

Advanced Placement courses.

There is evidence that as long as students have certain personal traits (belonging mindsets) and are supported by staff and programs in school, they are able to be successful in Advanced Placement courses (Shaunessy-Dedrick, et al., 2015; EOS, 2020). The belonging mindset may be one of the best indicators of student success in AP courses yet is an area where a gap in the research persists, which is why it was the primary focus of my study.

The leadership in Calvert County realized underrepresentation of students in higher-level classes was a problem and began to change these practices in 2015. Students are no longer tracked in elementary school, and there are many classes in middle and high school that are now de-tracked as well. Honors classes are still in place at the middle and high school levels. The Calvert County Strategic Plan has five priority areas: equity, student outcomes, climate and culture, workforce, and community engagement. The first three areas directly impact this problem of practice. In addition, the RHS School Improvement Plan (SIP) focuses on increasing the number of students enrolled in honors and AP classes. When RHS began to examine the data, it became apparent that minority students are not represented in honors and AP classes commensurate with school demographics. The RHS Instructional Leadership Team (ILT), comprised of department heads, AP specialists, school counselors, and administrators, as well as the School Improvement Team (SIT), comprised of administrators and staff members, began to discuss how to address this problem. RHS had been using a program, AP Potential, to identify students who currently were not in AP classes but who showed potential based on PSAT scores, state assessments, and classroom grades. However, this program has limitations as it does not incorporate other indicators such as student assets like mindset, grit, and sense of academic self.

Theory of Action

My theory of action is that a student's sense of belonging is a primary barrier to first-time AP enrollment. If we can increase Black students' sense of belonging in AP classes at RHS, we can begin to increase the number of Black students taking AP courses for the first time, while also reducing the disparate gap in AP enrollment of Black students and make it more representative of the demographics of the school. Figure 9 below presents the change initiative.

Figure 9

Theory of Action

Long-Term Aim	Intermediate Aims	Primary Driver
To achieve equity in Advanced Placement enrollment at RHS by increasing the percentage of Black students enrolled in AP classes each year so that Black students are more representative of school demographics (17.6%) by 2028.	1. Black students at RHS will represent 12% of students in AP courses by the end of the 2025–26 school year. 2. Black students at RHS will represent 15% of students in AP courses by the end of the 2026–27 school.	**Unified Core Mission:** Instill a shared teacher and student mindset to increase student sense of belonging and to provide access to a rigorous education while increasing the percentage of Black students enrolled in AP classes commensurate to the schools' demographics.

My theory of action is based on the belief that if Black students who possess the necessary skills and abilities for success in Advanced Placement (AP) courses, feel a strong sense of belonging both in school and within AP programs, then these students will be more likely to enroll in AP classes. This increase in enrollment will help close the gap of Black students participating in AP classes at River High School, aligning the representation of these students with the overall school demographics.

Addressing the barriers to Advanced Placement programs for first-time students, focusing on Black students, necessitated a comprehensive approach centered on enhancing students' sense of belonging. By tackling the structural, cultural, and psychological barriers, educational institutions can foster environments where all students feel valued and capable of succeeding in rigorous academic settings. Achieving equity in education requires sustained commitment and collaboration among educators, students, families, and communities. Through these collective efforts, we can pave the way for a more inclusive and equitable future in Advanced Placement.

The EOS program that was used in SCPS for identifying underrepresented students has been used by school systems across the country. Even if a student does not have a high GPA but does have a mindset or another asset that is a predictor of success, enrollment in AP courses makes these students 26-34 percent more likely to graduate high school than students who do not take AP courses (Ndura, Robinson, and Ochs, 2003; EOS, 2021). That is reason enough to push AP enrollment for all students.

The change initiative in my school began with one of the hardest to affect, student's sense of belonging. There is generally a culture of high expectations at RHS and the belief that most students should experience AP classes before they graduate, but there are still teachers who believe not all students are capable of the rigor involved in higher-level classes and it is believed by the leadership team that students do not feel like they belong in these classes. It is true that students are not going to be successful if they are moved from standard level classes to AP classes too quickly and without the supports and training needed to handle the rigors of the AP course. That's why a systematic tiered approach for all students needs to be implemented. Pre-AP development within the school will also provide the support students need to learn the

necessary skills to be successful, but the development of higher levels of rigor for students needs to begin in elementary school and be cultivated throughout students' educational career.

I will know if my theory of action is valid if the number of Black students enrolling in AP classes increases from one school year to the next, and if students feel an increased sense of belonging in AP classes. If one or two of these primary drivers are implemented with success, then it is my expectation that the number of students who enroll in an AP course will increase yearly, and the percentage of Black students enrolled in an AP course will be commensurate with the school population, which is currently approximately 17 percent. Meeting that goal would make RHS successful in closing the equity gap of underrepresented students in AP.

Prior Attempts to Address the Problem Nationally/Internationally, Statewide and in SCPS

South County had used the AP Potential program, along with teacher recommendations, as the primary means of identifying students with possible AP potential. Many other school systems have also relied on the AP Potential program to help them identify students. However, these methods continue to miss many students with AP potential who do not fit the typical student profile. South County Public Schools had contracted with Equal Opportunity Schools (EOS) to identify the "missing" Black students at River High School in order to address this problem. EOS had worked with many school districts in the country and in the state of Maryland to increase AP enrollment of Black students. The question that needed to be answered is, "What are the barriers prohibiting Black students from enrolling in AP courses at River High School"?

Tackling Barriers to AP Enrollment

The purpose of this study was to understand the sense of belonging of Black first-time AP students in grades 10-12 and to explore the barriers the Black students at River High School (RHS) experience that may contribute to them not enrolling in AP courses commensurate to the

demographics of the school. My aim was to explore the sense of belonging among Black first-time AP students at River High School (RHS), identify the barriers they face in enrolling in AP courses and ultimately have more students enroll in AP classes each year, so that Black students are representative of school demographics by 2028. This was accomplished by surveying the 48 River High School students who are first time AP students in the 2023-2024 school year, then conducting focus groups with the 8 students identified as Lead Higher (Black) students. By asking specific questions, the barriers to AP enrollment and student's sense of belonging allowed me to draw some conclusions and create a plan to improve the instructional program for students at River HS.

Section 2: Study Methods

Access to higher level course work, such as Advanced Placement (AP), increases a student's ability to be challenged and more prepared for college. Many high school students are intimidated by the term "Advanced Placement" and do not enroll in these courses even though they have the potential to do well in these higher-level classes.

Purpose of Study

This dissertation study investigated the crucial relationship between students' sense of belonging and their participation in Advanced Placement (AP) courses at River High School (RHS), with a particular focus on Black first-time (Lead Higher) AP students in grades 10-12. The research aimed to address the disparity in AP enrollment, where current demographics showed underrepresentation of Black students compared to the school's overall population of 17.6%. Through analyzing first-time AP students' perspectives on course experiences, available support systems, and potential barriers, the study sought to develop comprehensive strategies for increasing equitable AP enrollment by 2028.

The investigation was grounded in the theoretical framework that a stronger sense of belonging correlates with improved academic success and course persistence, especially among Black student populations. This research is significant because it directly addressed educational equity issues by examining both structural and social-emotional factors that influence AP course participation and success, with the ultimate goal of creating systematic supports and an inclusive AP program with a student population that reflects the school's demographics.

The research methodology focused on gathering both quantitative and qualitative data about student experiences, particularly examining how classroom dynamics, teacher-student relationships, and support systems influence students' sense of belonging. By identifying both existing effective supports and gaps in current support systems, the study aimed to inform the development of targeted interventions and policy changes. The findings will contribute to creating a unified core mission for AP enrollment at RHS, emphasizing systematic support structures for all first-time AP, particularly Black, students. This approach is aligned with both the short-term goal of gradual demographic representation improvement and the long-term objective of achieving proportional representation in AP enrollment by 2028, ultimately fostering a more equitable and inclusive advanced academic environment for all.

Research Questions

The following overarching research question and sub-questions guided this study: How can the barriers that Black high school students in grades 10-12 face at River High School be minimized in order to achieve equity in AP enrollment so that AP courses are representative of school demographics?

This study strove to identify what specific supports were accessed by first-time AP students and the systematic actions of teachers, school staff, and peers that served to strengthen first-time AP underrepresented students' sense of belonging in their AP course(s) by asking:

1. What actions, if any, by the school, teacher, or peers do first time AP, and particularly Lead Higher, students in grades 10-12 believe help their academic identity and their sense of belonging within the AP world?
2. What actions, if any, by the school, teacher, or peers do first time AP, and particularly Lead Higher, students believe hinder their academic identity and their sense of belonging within the AP world?
3. What is each student's perception of his/her academic identity and position (sense of belonging) within the Advanced Placement class(es) and in what ways, if any, do these perceptions impact their learning and engagement?
4. How did students perform in class? What specific supports did students' access? Which supports did students believe were most helpful and why?
5. To what degree do first-time AP students believe the supports contributed to their sense of belonging toward their AP course(s)?
6. What is the perception of the students who take the Seminar for Advanced Studies (SAS) class in regard to their sense of belonging in their AP class(es)?

Study Design

The study design used a mixed methods design, gathering data from all first-time AP students at River High School in a survey followed by interviews through a selected focus group of Lead Higher identified (Black) first-time AP students. A mixed method study strategically integrates or combines rigorous quantitative and qualitative research methods to draw on the

strengths of each. Mixed methods are typically used to produce a "robust description and interpretation of the data, make quantitative results more understandable, or understand broader applicability of small-sample qualitative findings" (Harvard Catalyst, 2024).

Methods

Survey Overview

A survey was conducted in May 2024 first of all first-time AP students in grades 10-11 at River High School in the South County Public School system. A total of 48 students completed the survey. Survey research is defined as "the collection of information from a sample of individuals through their responses to questions" (Check & Schutt, 2012, p. 160). Survey research can use quantitative research strategies (e.g., using questionnaires with numerically rated items), qualitative research strategies (e.g., using open-ended questions), or both strategies (i.e., mixed methods), as was the case in this study. As it is often used to describe and explore human behavior, surveys are therefore frequently used in social and psychological research (Singleton & Straits, 2009). The survey aimed to obtain insight into the students' sense of belonging in their AP course(s). Questions were on a 5-point Likert scale.

Focus Group Overview

While all first-time AP students in grades 10-11 at River High School were invited to participate in the survey to gain information regarding their perceptions of their AP course(s), only a select group of students were invited to participate in the focus group based on the selection criteria as detailed in the participant's section.

Selection and Recruitment of Students for the Survey and Focus Group

Selection of students. Students chosen for this study were limited to first-time AP students at River HS in the 2023-2024 school year. This study was initially planned to be

restricted to the 101 current 10th, 11th, and 12th graders who were first time AP students at River HS in the 2024 school year. Students in 9th grade were excluded because their enrollment in the 9th grade AP course (United States History) is not determined by any influence at RHS. These students were enrolled by their middle school counselors, and this study focused on factors at River HS that influence student enrollment in AP courses. The survey was ultimately conducted within the last two weeks of school, after senior's last day of school; therefore, only 82 students in 10th and 11th grade were actually invited to participate in this study as 12th graders were no longer in the building. For the 48 students who completed the survey, information was also collected through their student identification number that students were asked to provide at the end of the survey regarding their grade(s) in their AP course(s) and if the student was concurrently enrolled in the Seminar for Advanced Studies course.

Of these 82 first time AP students, 22 of them were designated as Lead Higher students. The Lead Higher students who completed the survey were invited to participate in the focus group as detailed below.

Recruitment of Students. Since I work in the same school in which I collected data I had impartial staff members (two research assistants) aid with the conducting of the survey (research assistant 1) and the focus group (research assistant 2). I sent a letter home to the parent/guardian of these first time AP students explaining the purpose of the study and that their student would participate in the survey unless a parent/guardian contacted me to opt the student out. (See Appendix A for a copy of the letter.) In the letter I informed each participant about the study, including a description of the purpose and method, and explained that the study was being completed as part of my fulfillment of a Doctorate of Education at the University of Maryland. I also described the selection process for participants and noted that, although participation was

voluntary, participants would be provided lunch on the day of the survey, and students in the focus group would be compensated additionally with another lunch the day of the focus group and a $10 Amazon.com gift card.

Survey Instrument

The survey was conducted to gather these students' perceptions of their AP course(s) and their sense of belonging in AP at RHS, as well as in school in general. Data were collected on student's race/ethnicity, gender, and grade level through their student identification number, and participants were asked to report their plans for after high school (attending college, technical school, or straight to a job). This information could be used to give an indication as to how important taking an AP course could be to the student.

Students' sense of school belonging was assessed using both questions from Goodenow's (1993) 18-item Psychological Sense of School Membership (PSSM) scale and as well as researcher generated questions gathering students' perceptions of peers and staff as it related to their sense of belonging in their AP course(s). Goodenow (1993) created a validated 18-item PSSM scale to measure "individual differences in belonging/alienation" to help researchers and educators identify students who perceive themselves as not having a connection to the school (p. 81), and other researchers have utilized it to gather similar information. This PSSM scales asked participants to rate how true or false each of the 18 statements were for them. Sample items include: "I feel like a real part of my school" and "People at my school notice when I am good at something." It is important to understand student's perception of belonging in school overall and then more specifically in their higher-level classes. Questions related to students' sense of belonging in their AP course(s) were also asked. Responses were rated on a 5-point Likert scale, with choices, for example, ranging from not at all true (1) to completely true (5). This tool was

selected to be used in this study for its proven effectiveness in quantifying students' perceptions of acceptance, inclusion, and respect within their academic environment. All participants also had the option to respond to four open-ended questions soliciting responses about participants' experiences and stories to allow for individual student voices to be heard. These open-ended questions assessed participants' perceptions of school belonging as it relates to their perceptions relevant to their AP experience and belonging. Finally, participants were asked about the types of supports they have accessed. See Appendix B for the full survey.

Conducting the Survey

I sent an email to the parent/guardian informing them of their students' participation with instructions how to contact me to opt out if desired. A date was set to conduct the survey during One Lunch tutoring time (where students have 30 minutes to eat and 30 minutes for tutoring). The survey was in place of their tutoring time. I sent a reminder to the students prior to the survey date reminding them of the date and time. A teacher at the school (described before as research assistant 1) who has a current CITI certification administered the survey. Of the 82 students invited to complete the survey, 61 students showed up to the library, and 47 students elected to stay and completed the survey. The survey was online, and students were able to use their school laptop or phone to take it. The link was sent to students when they arrived at the lunch meeting. Students were asked to complete all questions on the survey to the best of their ability. Students were provided with lunch on this day after taking the survey. Absent students were sent the link after this meeting and asked to complete it as soon as possible. The 19 students who were absent were sent the link via e-mail, and one student completed it after receiving the email. The breakdown of students who completed the survey is in Table 3.

Table 3

Demographic breakdown of RHS students who completed the survey.

Demographic Area	**Number of Students (out of 48)**
Female (total)	26
Male (total)	22
White	
Female	17
Male	14
Black	
Female	6
Male	1
MutliRace	
Female	1
Male	3
Hispanic	
Female	1
Male	5

Focus Group

The second part of the study was a focus group. In focus groups, invited groups of people are interviewed in a discussion setting in the presence of the session moderator (Creswell, 2007). Focus groups are a form of group interview that takes advantage of communication between research participants in order to generate data. Although group interviews could be used as a quick and convenient way to collect data from a group of people simultaneously, focus groups explicitly use group interaction as part of the method (Kitzinger, 1995). This method was chosen for this study because instead of asking each person to respond to a question in turn, students were encouraged to talk to one another and comment on each other's experiences and points of view. As Kitzinger (1995) states, this method "is particularly useful for exploring student's knowledge and experiences and can be used to examine not only what students think, but how they think and why they think that way" (p.299). For this reason, I selected the 15

eligible Lead Higher students (out of the original 22) to participate in the focus group. These students had completed the survey, which was a requirement for participation, allowing for more in-depth conversations about their sense of belonging after the surveys were completed.

Conducting the Focus Group

Parental/guardian consent was obtained when students agreed to participate in the survey, and an additional consent form for the focus group was signed by the participants. According to CDC guidelines (2018), focus groups should be limited to 6-12 students. Only one focus group was ultimately needed, as only 12 of the 15 eligible students for this part of the study (who had completed the survey) expressed interest in participating. Out of the 12 students who expressed an interest in participating in the focus group, 8 students actually took part in the focus group.

The focus group was held within a week after the survey was completed. The focus group was led by a second impartial staff member (research assistant 2) who also had current CITI certification, to ensure open and honest responses from students. An overarching question and sub questions were presented to begin the discussion. Students who participated in the focus group were additionally compensated with lunch and a $10 Amazon gift card.

Focus Group Interview Protocol

Prompt

The Research assistant shared this overarching question first and said: “I am interested in your thoughts about the AP program at RHS. Do you feel like you have equal opportunity to access and have success in AP courses at RHS?” I am going to ask several additional questions to guide our discussion.

Follow up focus group questions included:

1. How did you feel when you first joined the AP program?

2. What factors influence your decision to enroll in AP courses?
3. Do you feel a sense of belonging in the AP program? Why or why not?
4. Have you ever experienced any challenges or barriers to feeling like you belong in the AP program?
5. How do you interact with your peers and teachers in the AP classes? Do you feel supported?
6. Have you ever felt like you didn't fit in or were treated differently in the AP program? If so, can you share your experience?
7. What strategies or initiatives do you think could help improve students' sense of belonging in the AP program?
8. How important is it for you to feel a sense of belonging in your academic environment?
9. Have you ever considered dropping out of the AP program due to feelings of not belonging? If so, what made you stay?
10. In what ways do you think the school or teachers can better support students' sense of belonging in the AP program?
11. What types of supports have you accessed to help you in your AP classes?
12. Was it recommended for you to take the Seminar for Advanced Studies class?
    a. If so, who recommended it, and did you take it? Why or why not?
    b. If not, did you know about the course? Did you sign up for it anyway?
13. Do you have anything else you would like to add about your experience in AP?

See Appendix C for full focus group interview protocol.

Data Analysis

Data Analyses were completed in three areas: survey results, focus group results, and grades. I used a grounded theory, as it allowed me to develop a theory based on the data collected from students (Stough and Lee, 2021). Grounded theory was developed by Glaser and Strauss in 1967 and is a qualitative method specifically designed to inductively generate theory from data. It collects real-world data rather than trying to prove or disprove a hypothesis like in a deductive scientific approach. Data is gathered, patterns are looked for, and those patterns as used to develop an explanation (McLeod, 2024). It is particularly useful in educational research because it provides a structured yet flexible approach to understanding complex social processes, such as student belonging.

Student Grades and participation in the Seminar for Advanced Studies Class Review

Data were gathered from 10th and 11th grade students enrolled in AP courses for the first time during the 2024 school year. Students provided their student identification numbers in the survey, which facilitated the collection of information regarding their grades in all courses, including the AP course(s). Additionally, the survey assessed whether students were concurrently enrolled in the Seminar for Advanced Studies course.

This data collection aimed to gain insights into why some Black first-time AP students may achieve greater success than others. It also explored how the school can better support these students to enhance their chances of success. Notably, if students achieved higher grades and were concurrently enrolled in the Seminar for Advanced Studies course, this information can guide future scheduling needs for first-time AP students, as this seminar class is thought to be beneficial for their academic development.

Furthermore, I analyzed whether students were performing well across all their classes in comparison to their AP course(s). Student grades and overall GPAs were compiled into a data table, highlighting those who participated in the Seminar for Advanced Studies and those who were designated as Lead Higher students.

Survey results

The results of the survey are shared below using two methods: graphs and charts for the scale questions and coded themes for the open-ended questions. A five-point Likert scale was used for each survey question, allowing me to find the student's level of agreement or disagreement about a given statement. Likert scales are widely used in surveys to measure attitudes, opinions, and behaviors. This scale provides an objective way to quantify attitudes and feelings, as well as the degree of consensus on certain subjects or objects (Bhandari and Nikolopoulou, 2020). The analysis used ordinal data to evaluate the responses.

Each open-ended response was reviewed and coded to capture information about the type of content (0 = nothing (no entry), 1 = negative (strongly disagree and disagree responses), 2 = neutral (neither disagree nor agree response), 3 = positive (agree and strongly agree responses) of the entry (Rouhanifard, 2023). Submissions were coded as negative if they express frustration, discontent, and despair when thinking through topics of race, equity, and belonging in AP. Comments were coded as neutral if they are objective, minimizing subjective sentiments of how a participant feels toward topics of race, equity, and belonging in AP. Comments were coded as positive if they tend to express some level of subjective appreciation or praise for experiences or thoughts pertaining to topics of race, equity, and belonging in AP.

Focus group results

Analysis of the focus group interviews began with transcribed recordings. The recording of the focus group interviews was transcribed into a Word document. I approached the data without any predetermined theories. The cyclical process involved reflecting on the data through multiple readings over several weeks. Preferring tangible methods over coding software, I used hard copies of the transcripts, highlighting and making notes about the data to develop an explanation. This information will be used to evaluate current practices at RHS, to modify or delete what is currently not working, and to potentially add new practices to increase students' sense of belonging in AP and in school.

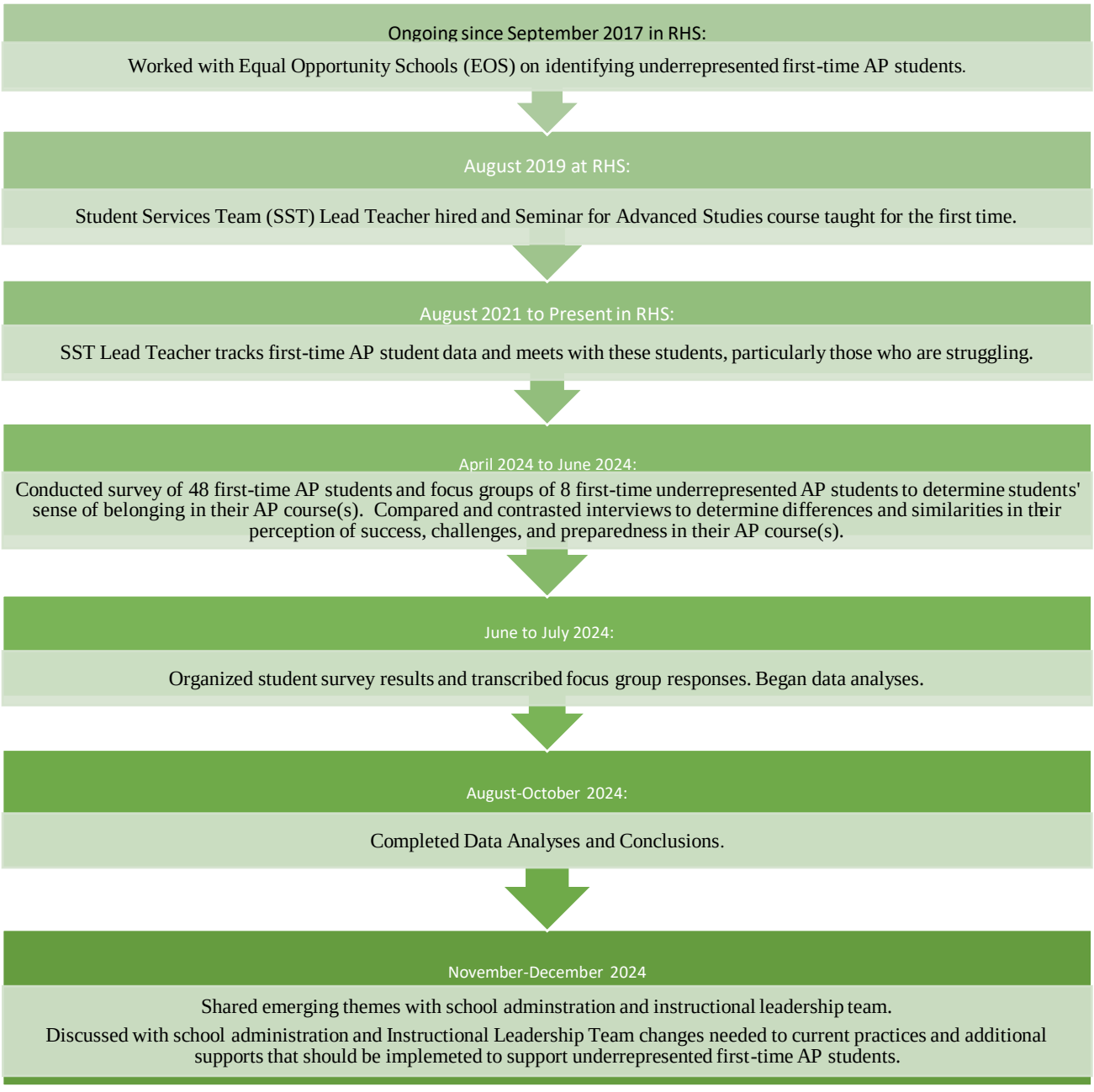
Further analysis

I incorporated analytical notes as I worked through the data collection, particularly with the focus group data. Analytical notes allowed me to document thoughts, ideas, and questions that come to mind during the data gathering, coding, and data analysis. I ranked students from most to least successful in their AP course according to their AP course grade, their overall GPA, then indicated which supports the student accessed, and how that compares to their sense of belonging as indicated in their survey responses. I also noted the similarities and differences between data in relation to students.

Timeline

Figure 10

Study Timeline



Reliability, validity, and generalization

Due to the nature of my position (Assistant Principal in the same building as the students), it was critical that I considered the reliability measures for this study in order to reduce both researcher bias and respondent bias. I have a positive rapport with many of the students in this study; however, since my position is one of authority my presence would likely impact the responses students gave. It is for this reason that I asked an impartial staff member, a teacher, to conduct the survey, and a second school system impartial staff member to conduct the focus group. The staff members fully explained the purpose of the study and answered any questions the students had. Furthermore, I utilized the strategies below to ensure greater reliability and validity:

- The focus group was audio recorded.
- I took detailed notes from the recording of the focus group and used the transcription feature in Microsoft Word.
- Themes were identified.

Protecting Human Subjects

An expedited IRB was requested for this research due to the minimal risks involving human subjects for the survey and focus group interviews.

Human Subject Review and Confidentiality

To protect the students at RHS, as well as the University of Maryland, this researcher proposed the following procedures to ensure that no identifiable subject data were used during this research process:

- Participation in the study was entirely voluntary, and every effort was made to protect participants' identities.

- Participants and guardians had to complete an opt out form if they did not wish to participate prior to their taking of the survey or be in a focus group.
- Participants had access to the results upon request after the completion of the study.
- Data from the surveys and focus groups would be stored in a password-protected folder in a password-protected computer for three years before being erased.

Summary

This study gathered qualitative and quantitative data from individual student surveys of first-time AP students as well as a focus group of identified underrepresented first time AP students regarding their perceptions of belonging in AP. This investigation's findings can help school staff better understand the struggles that underrepresented students experience in order to provide focused support for first time AP students so that they may be successful in their AP course(s). Knowing a student's perspective on their sense of belonging can serve as a potential factor to mitigate these underrepresented students' absence from AP courses. By having a greater understanding of how underrepresented students sense of belonging can be developed, this study will help educational practitioners design approaches, strategies, and interventions that can replicate the ensuing best practices this study identifies.

The following section will describe the results, analysis, and conclusions of the study, as well as the potential for this study to be replicated in other districts in the state.

Section 3: Study Findings

This study was guided by one overarching and six sub research questions: How can the barriers that underrepresented high school students face be minimized in order to achieve equity in AP enrollment so that AP courses are representative of school demographics? (1) What

actions, if any, by the school, teacher, or peers do first time AP students in grades 10-12, and particularly Lead Higher, students believe help their academic identity and their sense of belonging within the AP world?; (2) What actions, if any, by the school, teacher, or peers do first time AP, and particularly Lead Higher, students believe hinder their academic identity and their sense of belonging within the AP world?; (3) What is each student's perception of his/her academic identity and position (sense of belonging) within the Advanced Placement class(es) and in what ways, if any, do these perceptions impact their learning and engagement?; (4) How did students perform in class? What specific supports did students' access? Which supports did students believe were most helpful and why?; (5) To what degree do first time AP students believe the supports contributed to their sense of belonging toward their AP course(s)?; and (6) What is the perception of the students who take the Seminar for Advanced Studies (SAS) class in regard to their sense of belonging in their AP class(es)?

The purpose of this study was to understand the sense of belonging of Black first-time AP students in grades 10-12 and to explore the barriers these students at River High School (RHS) experience that may contribute to them not enrolling in AP courses commensurate to the demographics of the school. The study gathered survey data from first time Advanced Placement students in grades 10 and 11, as well as information from Black students who were part of the focus group. In addition, students grade(s) in their AP class(es) and overall GPA were examined and compared to their completion (or not) of the seminar for advanced studies class.

This section provides an in-depth understanding of first time AP students' perspective of their AP class. I presented the findings from the survey overall followed by an analysis of the focus group, which consisted of eight first-time AP Lead Higher students, responses to the question prompts. I also presented an analysis of student's grade in their AP class compared to

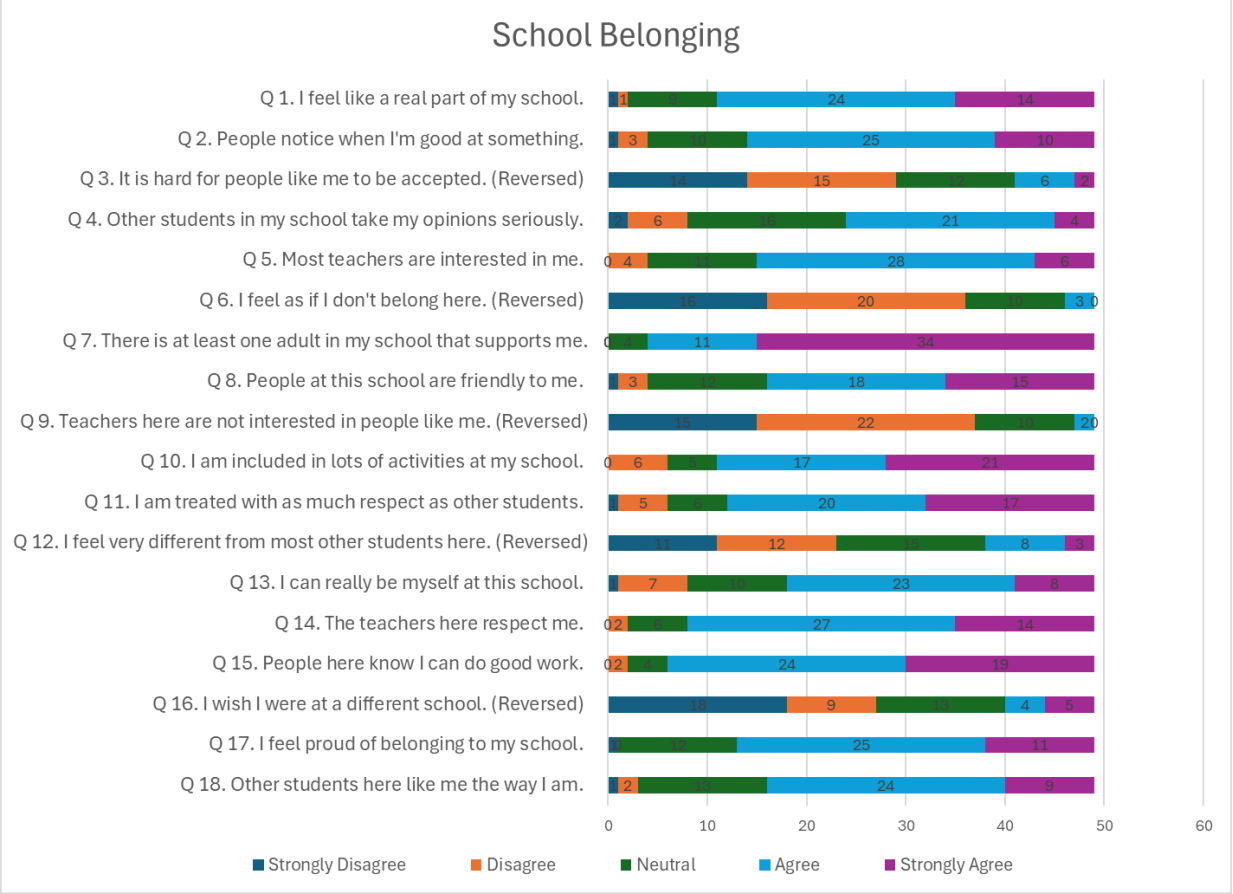
their overall GPA and if they concurrently took the seminar for advanced studies course. A grounded theory, emergent coding approach model was used to frame my findings for each analysis. These sections are followed by practice considerations, a discussion of the study limitations, recommendations for future research, and a summary.

Student Survey

The first 18 questions asked students about their overall sense of belonging in school. The remaining questions focused on students' perceptions and sense of belonging in their AP classes specifically. Figure 11 describes a student's overall sense of belonging in school.

Figure 11

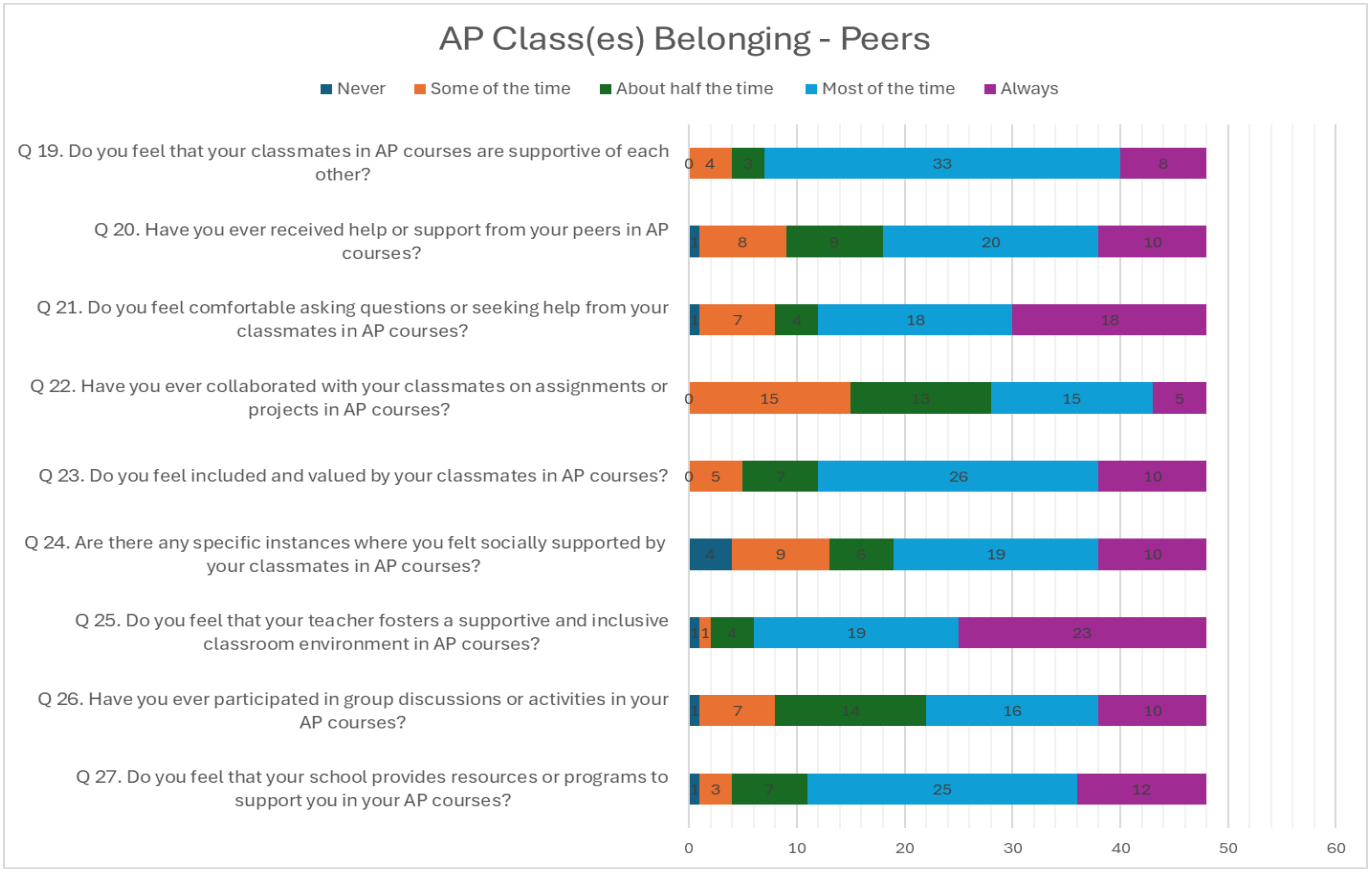
Survey Results: School Belonging questions



Students generally feel like they are a part of the school, that people are friendly to them, and that they are treated with as much respect as other students in the school, as evidenced by with students' responses to questions 1 (I feel like a real part of my school.); 2 (People notice when I'm good at something.); 11 (I am treated with as much respect as other students.); 14 (The teachers here respect me.); and 15 (People here know I can do good work.). Questions 17 and 18 ask students if they "feel proud of belonging to their school" and if "other students here like me the way I am". Only one student responded negatively on question 17 and three students on question 18, showing that students at RHS have a strong connection to the school and overall feel like they belong.

Figure 12

Survey Results: AP Class(es) Belonging- Peers questions



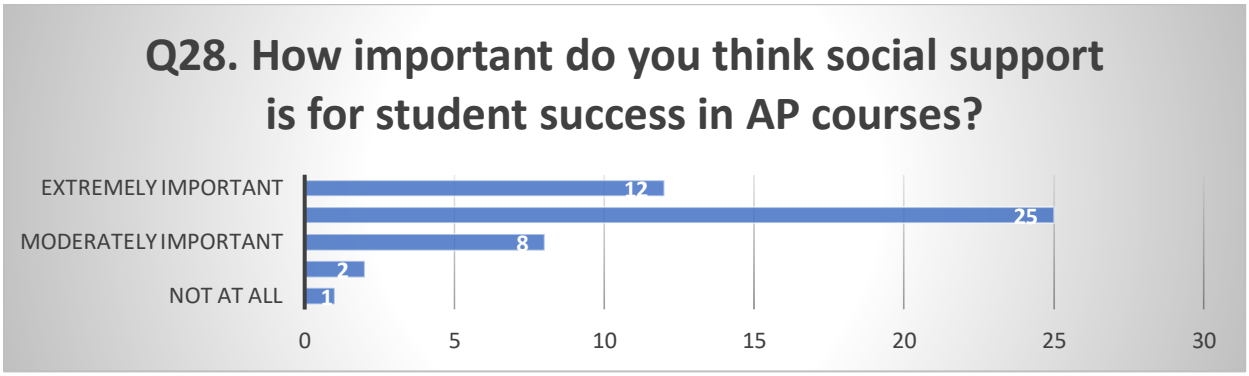
Student responses to feelings of belonging in their AP classes with their peers in figure 12 also yielded positive results. Most students feel that their classmates are supportive "Most of the time" (33 responses) and "Always" (8 responses) for question 19. A significant number of students have received help from peers "Most of the time" (20 responses) and "Always" (10 responses) for question 20. Students feel comfortable asking questions, with 18 responses for both "Most of the time" and "Always" for question 21. Collaboration on assignments happens less with students responding more "Some of the time" (15 responses) and "About half the time" (13 responses) for question 22. Many first time AP students feel included and valued "Most of the time" (26 responses) for question 23.

Socially first time AP students also felt supported as noted with their responses of "Most of the time" (19 responses) and "Always" (10 responses) for question 24. Additionally, teacher support is also viewed as a positive as a large number of students feel their teacher fosters a supportive environment "Always" (23 responses) for question 25. These students also rated their level of participation in group discussion as frequent, with responses "Most of the time" (16 responses) and "Always" (10 responses) for question 26. Finally, many students feel their school provides resources or programs to support them "Most of the time" (25 responses) and "Always" (12 responses) for question 27.

Question 28 (Figure 13) looks at students' view of social support from their peers in class and its importance to AP success. Students overwhelmingly believe that it is critical for students' success.

Figure 13

Survey Question 28: Social Support and Student Success



The next set of questions, numbers 29-37, focused on students' perceptions of teachers and the classroom environment. Students believe their teacher effectively explains complex concepts with 71% of responses being positive (figure 14). When teachers explain complex concepts effectively, students are more likely to understand and retain the material. This can lead to better academic performance and a deeper grasp of the subject matter. When students understand complex concepts, their confidence in their abilities increases. This can motivate them to tackle more challenging material and develop a growth mindset (American Psychological Association, 2020). Effective teaching strategies help students develop critical thinking and problem-solving skills that are valuable beyond the classroom. These skills are essential for success in higher education and future careers (Fries, Son, Givvin, & Stigler, 021)

Figure 14

Survey Question 29: AP Teacher Effectiveness

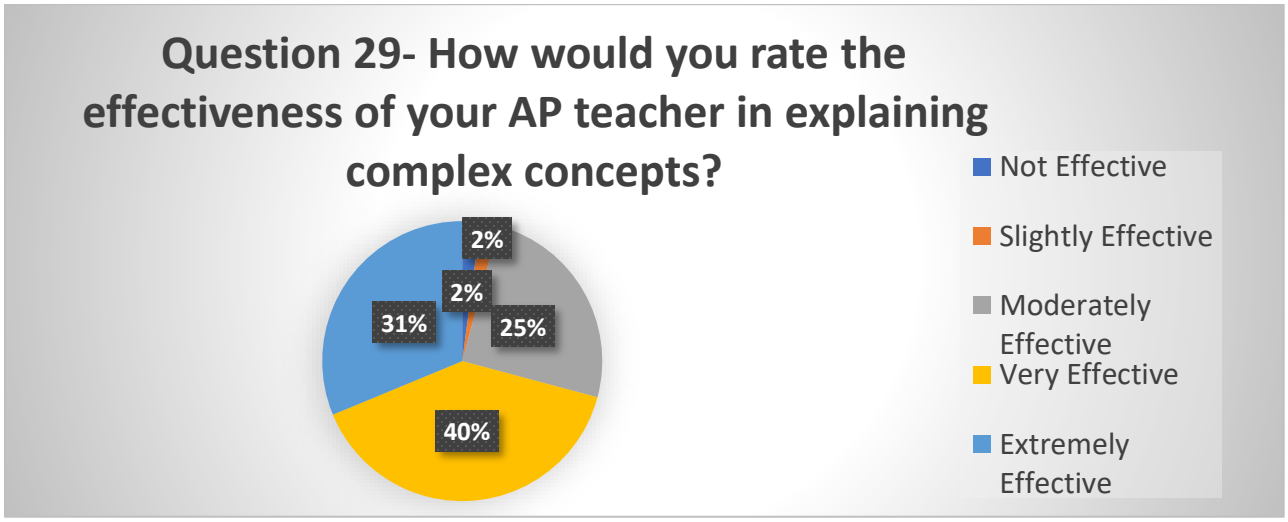
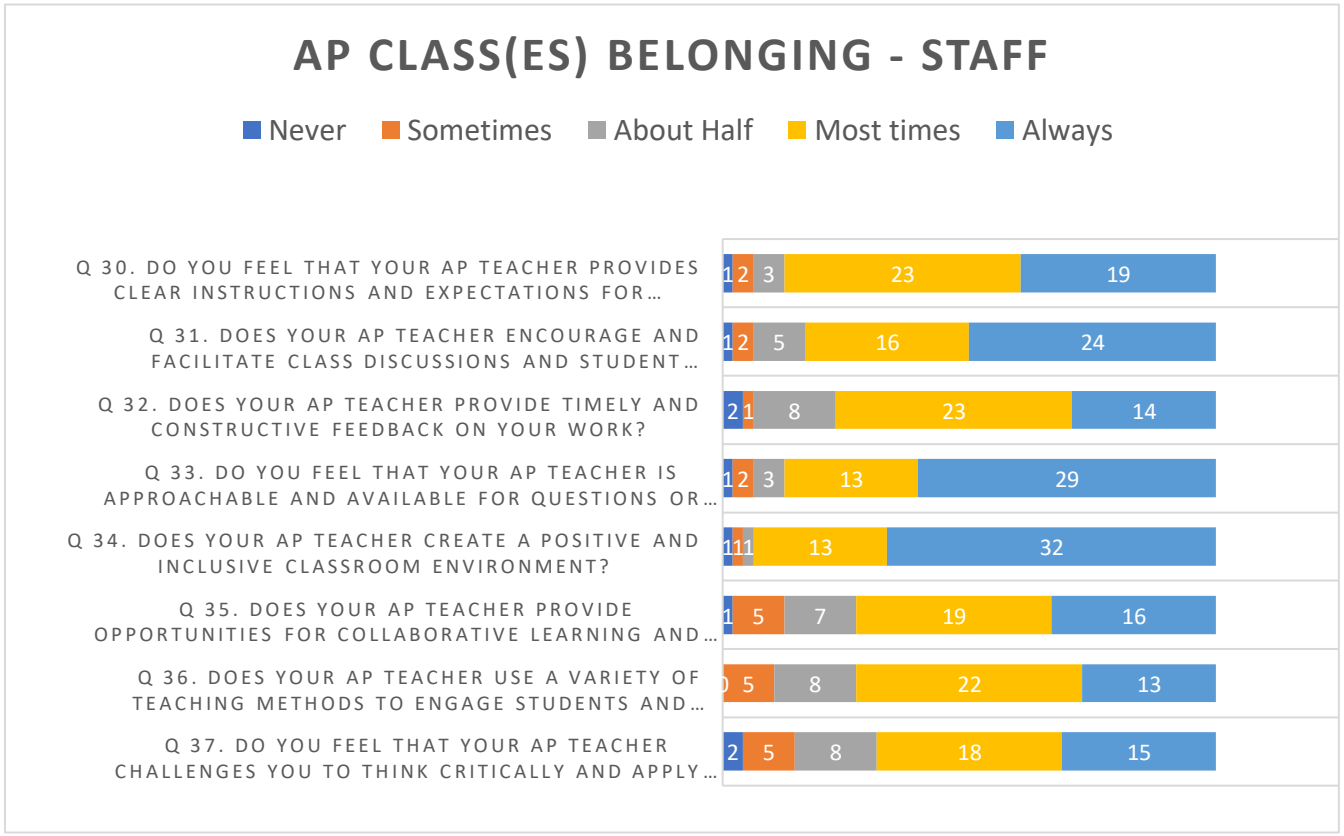


Figure 15

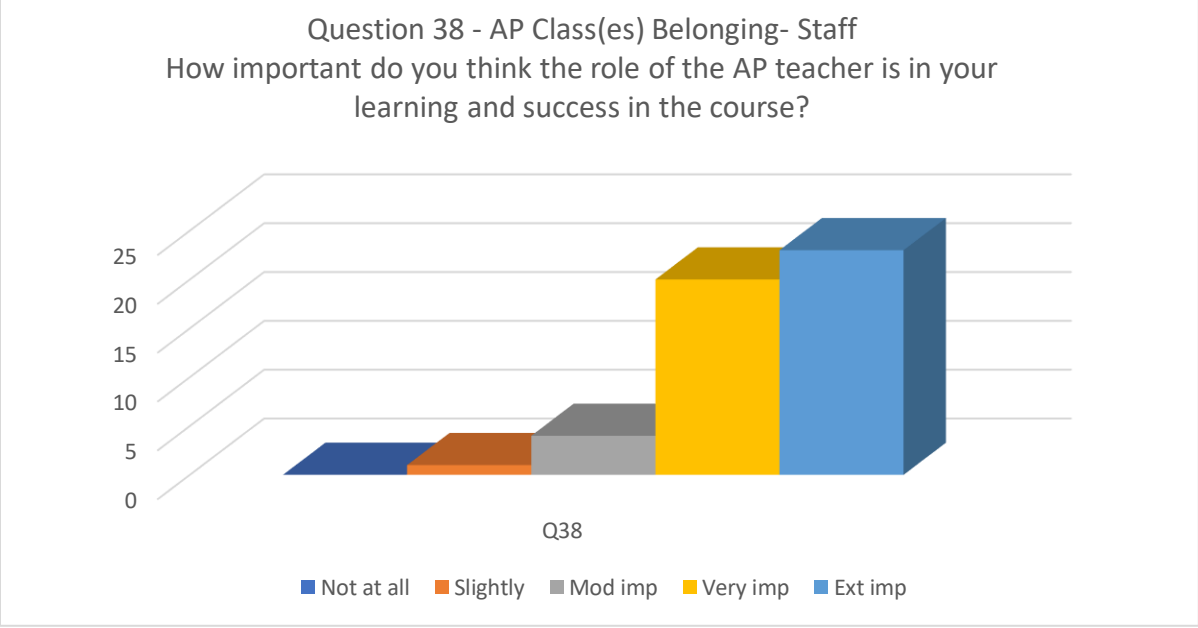
Survey Results: AP Class(es) Belonging - Staff



Overall, the survey data results presented in Figure 15 regarding staff suggest that the AP teachers are performing well in most areas, particularly in creating a positive classroom environment and being approachable. There are some areas for improvement, such as providing timely feedback and encouraging collaborative learning. Instructions and expectations are generally clear, with the majority, 42/48, responding "Most times" or "Always." Students believe that the teacher encourages class discussions and student participation, with most students (93.8%) responding positively. The majority of students (95.8%) feel that the classroom environment is positive and inclusive. Students overwhelmingly agree that the role of the teacher is the most important in their learning and success in the course with 47 of 48 students responding positively (see figure 16 below).

Figure 16

Survey Question 38: Role of the Teacher



Students were then asked an open-ended question for #39: How have you been supported (or not) by staff? Please provide as many details as possible. Each open-ended response was

reviewed and coded to capture information about the type of content (0 = nothing (no entry), 1 = negative (strongly disagree and disagree responses), 2 = neutral (neither disagree nor agree response), 3 = positive (agree and strongly agree responses) of the entry. The answers were somewhat varied, but when coded, 42 of the responses were coded a 3 (positive) and 3 responses were coded as a 1 (negative). Three students had a more neutral response, being neither positive or negative in their response to the question.

Table 4

Survey Question 39- Coded Comments

Number of students	Code Assigned to comment
42	3 = positive (agree and strongly agree responses)
3	2 = neutral (neither disagree nor agree response)
3	1 = negative (strongly disagree and disagree responses)
0	0 = nothing (no entry)

Themes from the coded comments emerged. Students' comments were filtered into eight categories with some comments from students included:

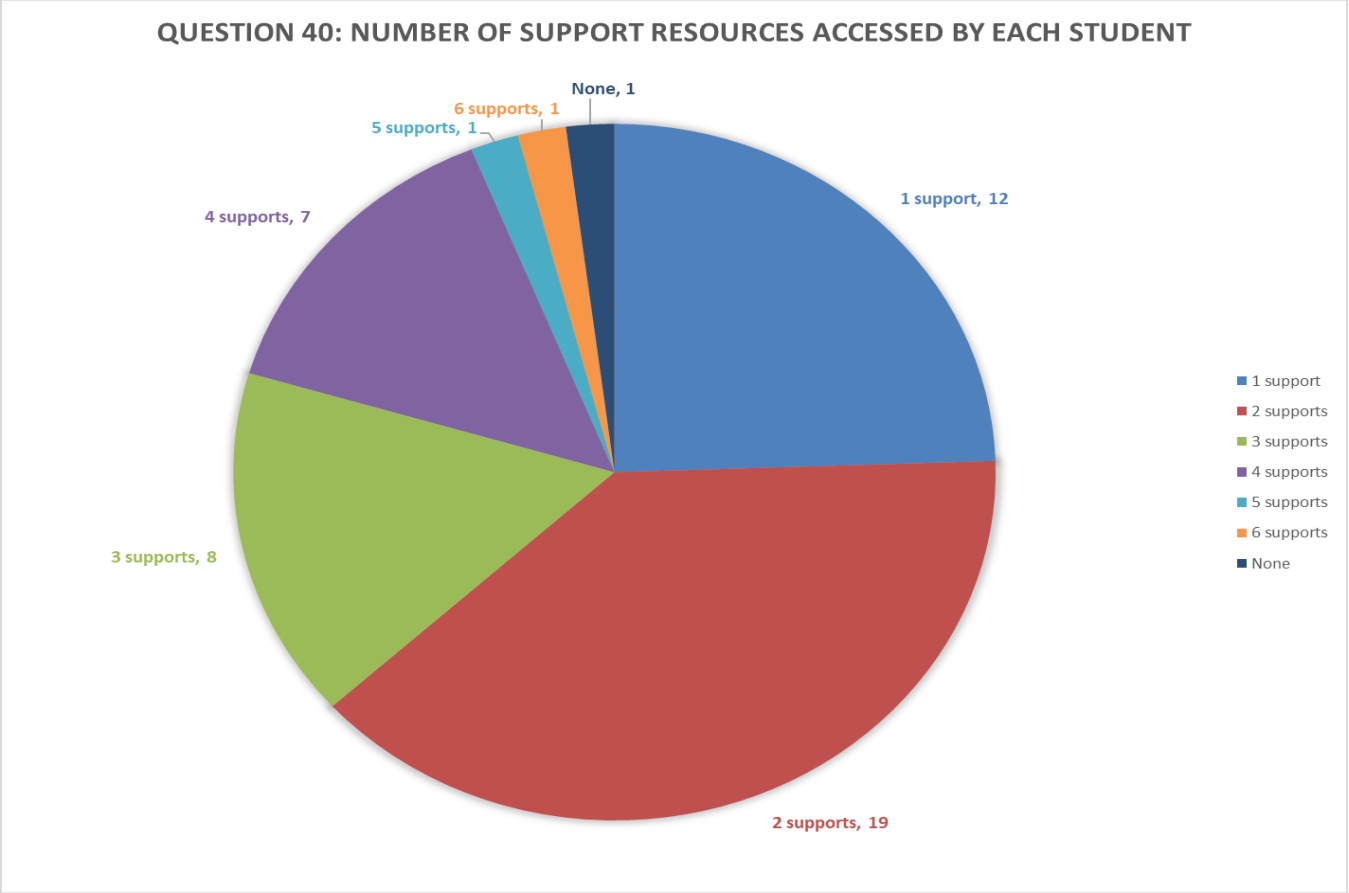
1. Responsive and Helpful: Some teachers, Mr. X and Mr. Y, always answer student questions and help with their work.
2. Encouragement and Motivation: Some teachers, like the AP English and AP Government teachers, have pushed students to take harder classes and supported them throughout the year.
3. Academic Assistance: Teachers provide study guides, extra time for work, and help when students are falling behind or struggling with assignments.

4. Constructive Feedback: Teachers give constructive feedback and ways to improve and allow students to ask questions during lunch.
5. Personal Check-ins: Teachers check on students personally to see if they need assistance and make themselves available for extra help.
6. Understanding and Supportive: Some staff members take time to understand the students, congratulate them on little things, and make supportive comments.
7. Opportunities for Improvement: Teachers provide opportunities to get ahead, offer multiple attempts on assignments, and emphasize that failure is a way of growing.
8. Mixed Experiences: While some teachers are very supportive, others give little context in certain situations or don't understand the stress of AP classes. These comments were more referencing non-AP teachers.

The last questions of the survey focused on which resources students may have used and to what extent. Question 40 (Figure 17 below) asked students, "Which of the following support resources have you used at school to help you succeed in your AP class(es)? Choose all that apply." A little over half (64.5%) of the students used only one or two supports. The percentage of students that used four or more supports is 18.8%. When compared to their overall course grade in the class, the students that used 4 or more supports had an average AP course grade of 91% and an average GPA of 3.79.

Figure 17

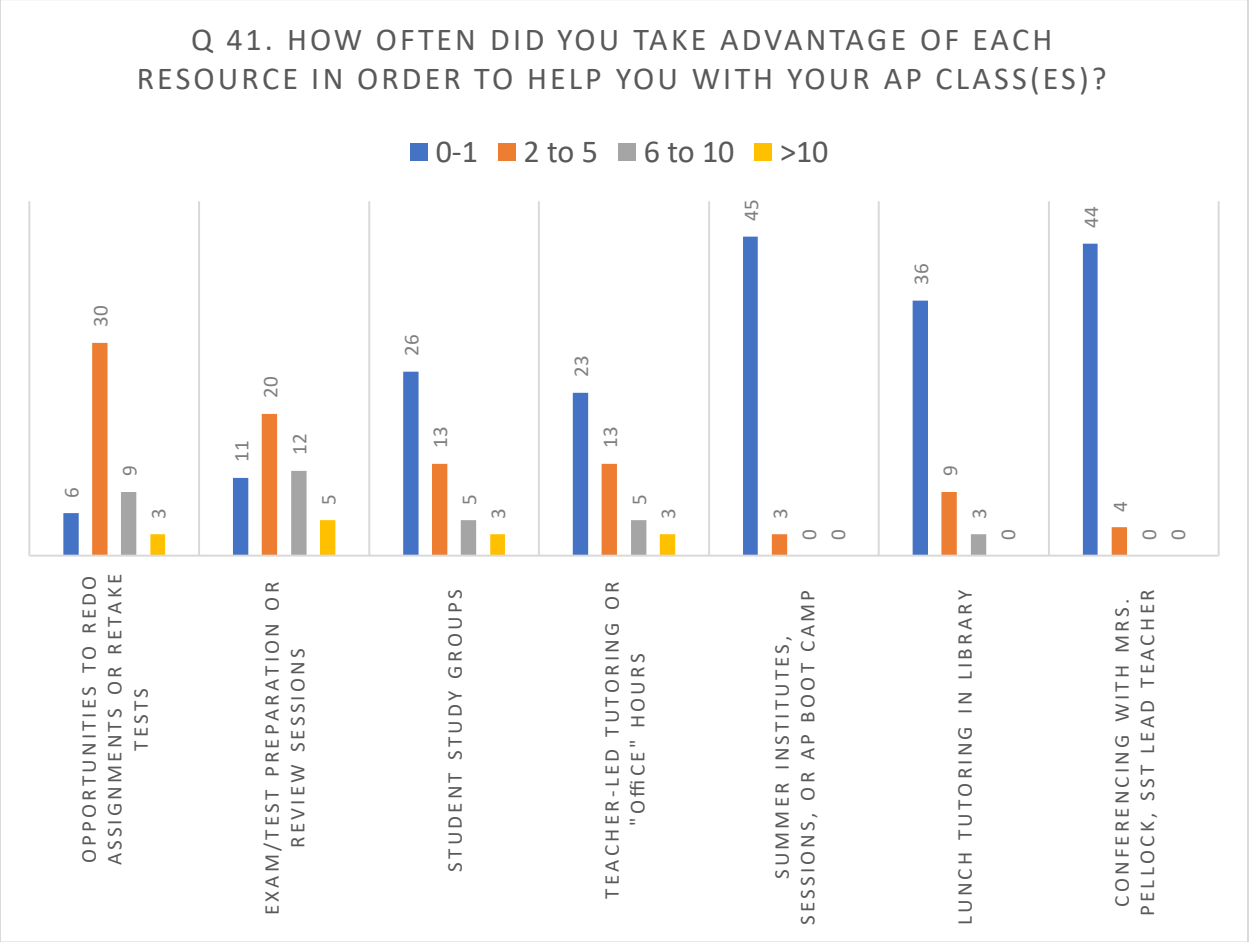
Survey Question 40: Total number of support resources accessed by each student.



Question 41 (Figure 18) went further and asked students about how often they took advantage of the support resource in their AP class(es). Some of the resources are reported to be used more often than others. While 30 students shared that they took advantage of opportunities to redo assignments or retake tests, few students took advantage of more personalized tutoring opportunities, such as teacher-led tutoring or conferencing with Mrs. Pellock. Exam/test or review sessions and student study groups fell in the middle with 20 students attending 2-5 review sessions and 21 students (43.8%) participating in student study groups more than once.

Figure 18

Survey Question 41: Number of times students used a specific support resource.



Focus Group

The focus group consisted of eight students who were a part of the identified "Lead Higher" group. These Lead Higher students were recruited the previous school year (2022-2023) to take an AP course for the first time in the 2023-2024 school year. Their experiences were gathered, and their voices heard through a 30-minute focus group with directed questions.

The focus group began with the research assistant providing background on the purpose of the study, introductions, and the format of the discussion. The research assistant ensured that

the audio was recording, then she began the questions. Students provided answers, sometimes talking over each other, making some of the responses hard to decipher. Many of the students did not elaborate until the research assistant asked follow-up questions. Two students, one male and one female, provided more lengthy responses to most questions and often spoke first, which encouraged other students to enter the conversation.

The initial overarching question read was, “I am interested in your thoughts about the AP program at RHS. Do you feel like you have equal opportunity to access and have success in AP courses at RHS?” Students simply answered, “yes” and were asked to further elaborate. One student said, “They give us opportunities to make the assignments or have help on assignments.” and other agreed. The research assistant continued with the follow-up questions to elicit more in-depth responses from students. Six themes emerged from the follow-up questions and subsequent conversations.

1. Equal Opportunity and Access
    - General Sentiment: Most students felt they had equal opportunities to access and succeed in AP courses. They appreciated the support provided, such as help with assignments and the availability of teachers during lunch hours.
    - Support Systems: Students highlighted specific supports like teachers being available during lunch to review papers and provide feedback. This accessibility was crucial for their success.

One student responded that a teacher is open every Tuesday and Wednesday during lunch, and he has it open for AP students just to come in. He'll read over the papers and provide specific feedback to you. Another student chimed in, “yes, his room is open most of the time. You can go in there and make up work or anything you missed. Same thing with my math

teacher". When the research assistant asked when you go in how does that make you feel getting support, students answered "like it's almost like normal". The research assistant asked a follow-up question, how did you feel when you first joined the AP program? Students answered, "Yeah, nothing", "I thought normal", "Yeah normal- until second quarter".

2. Challenges and Workload
    - Initial Feelings: Many students felt normal or indifferent (not different from their peers) when they first joined the AP program. However, as the semester progressed, the workload increased significantly, making it challenging to keep up.
    - Managing Workload: Students had different strategies for managing their workload. Some stayed on top of their assignments daily, while others prioritized certain tasks over others. Procrastination was a common issue, with mixed results on its outcomes for the students. (Some were able to complete work last minute, others took zeros on the assignments).

The research assistant asked what happened during second quarter? The student responded, "The workload just started building and then started getting harder and kept rolling the whole time and it felt like there was no time. I just had to keep going and everything. You just have to do it on time". Another student responded that they felt the same way, but another student said he did not. He shared, "I mean, they kind of you see, like, eased into it first and then everything just kind of picked up. But it wasn't too much work. It was just you had to stay on top of everything or you would start to get behind. But that's with anything you have to stay on top." This student further went on to say that he just plugged away and did his work every day he didn't goof off - he actually just did the work. Another student stated that "you have to prioritize some assignments more than other assignments". Another student shared that he's a chronic

procrastinator so he waited until one night to do everything. He said he got a B in the class. The research assistant asked other students if they procrastinated too, if that worked for anybody else and most responded “no”.

3. Sense of Belonging
    - Peer Support: Having friends in the class was a significant factor in feeling supported. Students often relied on their peers for help and understanding assignments.
    - Teacher Engagement: While some students felt supported by their teachers, others felt that teachers were not as proactive in offering help. The ability to redo assignments was appreciated, but some students desired more direct engagement from teachers.

The research assistant asked students if they feel a sense of belonging in their AP class. Some of the students shared they weren't quite sure what that meant, so she rephrased the question, “Have you ever experienced any challenges in your AP class or not feeling like you belong?” A female student responded, “I have friends in the class. I talk with them, and I get some help and understanding on some of the assignments, so I feel like I've had some support from my friends, but I don't always feel that the teachers are always as helpful. My teacher would just talk and wouldn't necessarily come ask me if I needed help, but I could go redo assignments I didn’t do well on to pass the class”.

The research assistant said, “We are talking about your sense of belonging in the AP program. Is it more like the whole school environment that you were referring to? Any other comments about that?” Students responded, “I feel like it's not a class that you just have to take. I feel like you put yourself in your class so you can't just like sit back. You kinda have to involve yourself because it's not one of the classes with teachers who are gonna hold your hand through it. You have to jump in. You have to put the work in. It’s a lot of self-motivation. It’s

really just like a big group discussion." Another student added, "I feel like talking with like other students was really good. I feel like trying to do classwork myself was pretty helpful for the class at least." Other comments about their AP class: "Everybody's way more mature", "Yeah, it's a little easier.", "Easier to have conversations and like, read out loud.", "Yeah, like you don't have too many childish people in there like other classes". The research assistant followed up by stating, "So the people who are in your class are more like minded." Three students responded, "Yeah", others responded, "They have good attention spans.", "They don't interrupt the teacher.", "You can just tell that everybody's involved cause if you're just in a regular class, nobody cares.", "You know, everybody gives their own thing."

4. Resource Supports
    - General Satisfaction: Most students were satisfied with the supports provided and did not express a need for additional resources.
    - AP Seminar: The AP Seminar class was mentioned as a beneficial support, offering a space for independent work and one-on-one help. However, not all students were aware of or participated in this resource or the Seminar for Advanced Studies course.

The research assistant asked students if there were any supports that they wish would have been provided? Students responded, "not really". One student responded, "I have AP seminar", and then explained that AP seminar is "where you come to a room in the library and it's like a work study room. You work independently". None of the students in this focus group were taking the Seminar for Advanced Studies class, although one student knew that it was a class period where the teacher gives you more one-on-one help and you receive a grade for the course. Many of the students did not seem to know the difference between the two courses as they described them for the researcher assistant. When asked if it was recommended for students

to take the seminar for advanced studies class, some students said yes, and some were not sure. One student stated, “I did not have room for it in my schedule”. Two students shared that they weren't even sure what the class was and how it was really different from the AP seminar class. Specific supports were not mentioned by name in the questioning so students may have generalized the term “supports” and gave it a positive rating without much thought.

5. Reasons for Enrolling in AP Courses
    - College Preparation: Many students enrolled in AP courses based on recommendations from administrators and the promise of college credit. They viewed these courses as valuable preparation for higher education.
    - Experience of AP: One student commented that he wanted to see what a college class would be like and to see if he could do it.

One student responded that an administrator had suggested that they take the AP class because it is good experience for college. Another student chimed in, “yes you can get college credit and I was told it is just like the college experience, so I thought OK I can get a college credit easily, so I took the class”. The research assistant followed up with, so you said you're going to get college credit? Does that mean you took the test? Students responded “yes”, one student said, “I only took it because it was free”, another student said, “yeah, it's like the main reason people take it”, another one said, “yes, but there is an option if you want to send the score to a college, so you could do that only if you wanted to”. The research assistant asked, “so we know that one factor was the influence from the administrators. Any other reasons why you signed up for an AP class?” Students shared that specific teacher recommendation was a reason, and a female student shared that her brother encouraged her to take the class. One student stated, “I'm not planning to go to college. I just want to check what would be like if I was in a college

class." The research assistant asked, "Do you think it gave you some valuable knowledge for even though you're not going to college?" The student responded, "Yeah" and another student said, "Yeah, it's definitely different from every other class."

6. Emotional and Social Aspects
    - Belonging and Adaptation: Students initially felt out of place in the AP program but eventually adapted and found their footing.
    - Support Systems: The importance of support systems, like focus groups, where students can share experiences and feel understood is important.
    - Challenges and Persistence: Despite initial feelings of not belonging and the difficulty of the coursework, students persisted and continued in the program.
    - Authenticity in Support: Students expressed a need for more genuine and individualized support from teachers and the school, rather than feeling pressured or nagged into the program or the test.

The research assistant asked, "Did anybody not feel like they belonged?" All students responded, "No". She then asked, "Have you ever experienced any challenges or barriers? Not feeling like you belonged in the AP program or with any of your peers or teachers in those classes?" A student responded, "My first day at school was terrible. I did not plan on coming back. But I felt like when I got into the AP class it was like everybody has done this before. Like these are all the smart people in here. I felt like I didn't belong at first in the class and then I realized, oh, I'm smart enough to be here." A second student said, "Yeah everyone felt like that first, but then it was just a quick switch for me." "This is just school. You see these students like our grade, you've been with them since junior level." "We all found a way to just, like you know, do it. Like how some people are able to adapt to things quicker than you are so you have to find

a way". The research assistant asked, "So what strategies or initiatives do you think could have helped more students have that sense of belonging in the AP classes?" Students answered, "Stuff like this.", "having a focus group."

The research assistant asked, "What do you think is beneficial about having a focus group like this?" Students answered, "Having this opportunity to talk to each other". "We are on the same page and can take action earlier if we are struggling." "Again, having this late in year and just talking about how the year went and how it should've went, it shows you that you're not the only one going through it." "Everybody on the same page." The research assistant asked, "Is it important for you to feel like you belong? How important is it for you to feel a sense of belonging in this academic environment?" Students answered, "Some of the classes are challenging and you don't feel like you always belong when you do. But is important to feel comfortable in the class." "I don't think it is that important." "If you have like a drive yourself like you know that you wanna get the credit, then you shouldn't need anyone else to like help you along. You're helping yourself." And have you ever considered dropping out of the AP program due to feelings of not belonging?

No. (multiple responses)

The research assistant followed up with, "OK, so it wasn't because of not belonging, but was there another reason?"

"Yeah." "It just felt like in the second quarter that was like so hard, so you know, I was like, I don't know if I could do this for a little longer, but I just kept going. I was like if I dropped out now, I have to pick up another class and restart over. So, I was just like, I just keep going."

Next, the research assistant asked, “In what ways do you think the school or teachers can better support students having that sense of belonging in the AP program? Was there anything initially that they provided or do you have any ideas on additional supports that can be provided?” Student responses: “You come at us so stop nagging people. They're very persistent about it and it's kind of …they're very like before we even joined the AP class, they weren’t asking us about it they were more telling us about it. And then they would call you down and talk to you about it. And then they'll ask you how you feel about it. Then they'll call you back down, and it's just like, let it be- if we wanna do it, let us squeeze into it. Don't try to force us to take it.” “And most were made to take the test by force not by choice.” “Like a lot of people that took the test, didn't want to take the test, or like they were tired of getting nagged about signing up, so they just signed up so they can stop.” The research assistant followed up, “So, they nagged you and the nagging was more of a negative, not a support?” Student responded, “Yeah, it makes it seem more unnatural.”, “Yeah, like people don't wanna do it. Like maybe we can just take their time to figure out what we want”. Research assistant said, “So, having more of an authentic, individualized, information session for people where they can really ask their own questions?” Student responses: “Yeah.”, “Yeah.”, “And when they called you down, it wasn't really like, ohh do you want to do it or how do you feel about doing it? It would just like oh you know, there's a deadline or you have to paperwork.” “And they made it seem like that was only way you'll be successful later.”, “Kind of like they made it seem like, oh, if you don't do this, you'll like drop out. You won't be anything”.

Overall, as was seen in the survey, students do not perceive themselves as that different from other students, and that their ethnicity is not a determining factor in whether they felt they belonged in their AP class. Students feel like having this type of conversation (focus group)

earlier in the school year would be beneficial to be able to make changes happen before the end of the school year. They like the supports, although it is unclear whether students are aware of all the supports available, and they like the support of a mentor teacher, but not the "nagging" from administration to take the test. Students shared that "your experience in AP just depends on you- it's a you thing".

Summary by Research Questions

In this section, I explored study findings in relation to each sub research question.

Research Question 1

What actions, if any, by the school, teacher, or peers do first time AP, and particularly Lead Higher, students believe help their academic identity and their sense of belonging within the AP world?

Students felt that the relationships that they have with teachers and peers have a positive impact on their sense of belonging in school and with their peers in their AP classes. Having a mentor teacher to guide students through the AP process was beneficial. Overall, students shared that teachers in AP classes tended to lecture a little bit more and just give assignments to complete. One student commented, "they tell us what to do and it's more like you just have to do the assignments - it's on you it as it is more independent learning." Another student shared that it was a lot of taking notes. One teacher would put bullet points on the board to remind him what to talk about, and then he would lecture on that topic. A student commented that it was a really good way to learn because he was not just copying everything from the board, he was actually listening to it as the teacher explained the topic and he learned better like that. The consensus was that the workload, though intense, was manageable with organization and not letting themselves get behind with the work. The second quarter was a critical period requiring

adjustment to the escalating demands, with the overarching theme being the necessity of a proactive approach to navigate the class effectively. From the focus group, students shared that the class discussions in AP, combined with no disruptive students, made the AP class one of their more enjoyable classes. Students commented that "AP courses are not a class you just have to take and that if you put themself in that class you can't just sit back and slack. You have to involve yourself because the teacher is not going to hold your hand." Another student said, "You have to jump in, and put the work in. It requires a lot of self-motivation. It's really just like a big group discussion." And "Talking with other students in the class was really good". Students really like the AP courses because they said, "everybody is way more mature, and it is easier to have more mature conversations." You don't have to worry about other students misbehaving as much. The students are much more like-minded, they have good attention spans, they don't interrupt the teacher, and they are way more involved in the class. In a regular class nobody cares, they just do their own thing. There is a deeper sense of urgency, and everybody wants to be there because they want to get everything done. The AP courses helped improve writing skills, critical thinking, and overall academic performance.

Students feel that classmates have supported them in these ways:

1. Inclusion and Interaction: Classmates make you feel included, talk to you in class, and work with you on projects.
2. Academic Support: Classmates help you study, assist with confusing topics, and help you understand the material. They give you notes and help you catch up when you are absent.
3. Encouragement: Classmates encourage you to speak, ask questions, and reassure you when you do poorly on tests.

4. Collaboration: You work together on assignments and presentations and help each other out when someone needs it.
5. Friendship and Understanding: The classmates respect your opinions, help with assignments, and make class fun.

This research question addressed the actions perceived as helpful by students in fostering their academic identity and sense of belonging. The results suggest that strong relationships with teachers and peers are pivotal, and many feel that they already have them. Students emphasized the role of mentor teachers in guiding them through the AP process, as well as the positive impact of collaborative discussions in maintaining engagement and motivation. They reported that even while the workload was demanding, effective organization and self-motivation enabled them to navigate the challenges of the AP course(s) successfully.

Research Question 2

What actions, if any, by the school, teacher, or peers do first time AP, and particularly Lead Higher, students believe hinder their academic identity and their sense of belonging within the AP world?

Students identified nagging by administration to sign up for AP tests as a negative, but there was nothing specific that students identified that hindered their academic identity and sense of belonging. While there are some ways that teachers present information that is preferred over others, the only negative comment was that teachers talk too much at them at times. Some students wished for more clarification and explanation in their courses. There was nothing that peers did that was identified as hindering first time AP student's sense of belonging. There was also no noticeable difference in comments between underrepresented students and majority students from the survey. In the focus group, some additional clarifying questions could have

been asked to dig deeper into the interactions these first time AP students have in their AP class specifically. It is also unclear whether the student responses were focused solely on the AP course they were in and not other classes.

Research Question 2 aimed to identify challenges to students' academic identity and sense of belonging. Interestingly, students, especially those in the focus group, reported facing few obstacles to their learning. This unexpected positive feedback might be due to the participants' generally more positive academic mindsets compared to their peers who did not participate in the study. And while administrative pressure to sign up for AP tests was expressed to be a nuisance, no significant actions from peers or teachers were identified as detrimental. However, some students expressed a desire for clearer communication and guidance from teachers.

Research Question 3

What is each student's perception of his/her academic identity and position (sense of belonging) within the Advanced Placement class(es) and in what ways, if any, do these perceptions impact their learning and engagement?

Upon joining the AP program, students initially felt that it was a similar class to non-AP classes. However, during the second quarter, the workload increased significantly, with more strict deadlines than non-AP courses. Participants had varied emotional responses to this: some felt overwhelmed, while others did not see it as varying much from other classes. When asked, "Have you ever experienced any challenges or barriers? For example, not feeling like you belonged in the AP program or with any of your peers or teachers in those classes?" None of the students in the focus group felt like they did not belong overall. One student did share that at first school was terrible and she did not like it, and she felt that other students in the AP class had

done this before, so they seemed a lot more comfortable. She looked around and thought to herself that there were lots of really smart people in there (the classroom); then she realized, "Ohh I'm smart enough to be here too!" Students in the focus group shared that they have been with the same group of students since middle school, which makes it easier to feel included, even if they were not always in the same classes. Some students were able to adapt to new situations quicker than others, but overall, everyone eventually found their way. One student believed that "at CTA[7] it was harder to fit in because students came from different schools and backgrounds, unlike your current school where you know most people. (In the junior year, if students are in a Career & Technical Education (CTE) program, the students at RHS take their English class at the Career and Technology Academy (CTA) and there are students from all four high schools in the class.)

Other comments from students were that some classes are challenging, and it can be hard to feel like you belong. Feeling comfortable in class is important for some students. Many believe that self-motivation is key. If the student has the drive to succeed and earn the credit, you don't necessarily need others to help you. Some students might feel like they don't belong and may not care about their performance because of that feeling. However, they also understand the importance of having a strong mindset. Many students enjoyed their AP classes and found them beneficial for college preparation. Several students are looking forward to taking more AP classes to expand their knowledge and skills. While some classes were noted for the heavy workload, students also appreciated its fun projects and activities.

[7] CTA= Career and Technology Academy: A centralized county vocational school where students from all high schools in the county apply to attend vocational classes for half of a day in their junior and senior year.

In Research Question 3, students shared their perceptions of belonging within AP classes. It's interesting to see that students reported a sense of belonging despite the increased workload in AP classes. This suggests that the familiarity with classmates from previous years plays a significant role in fostering this sense of belonging. However, the fact that self-motivation emerged also as a critical factor indicates that while students feel they belong, they might still face challenges that require personal drive to overcome. The sense of belonging might be primarily driven by social connections rather than institutional support. Familiarity with classmates can create a supportive environment, but it doesn't necessarily address all academic or emotional needs. Students might rely on their internal drive to manage the increased workload and academic pressures. This could mean that even while they feel they belong socially, they might not be receiving enough external academic support. Overall, the sense of belonging is a positive sign, but it also highlights the importance of ensuring that students have adequate support to succeed academically and emotionally.

Research Question 4

How did students perform in class? What specific supports did students' access? Which supports did students believe were most helpful and why?

Only one student (out of 48) in this study was enrolled in the Seminar for Advanced Studies course. Non- Lead Higher students made up the top five highest GPA's when ranked by GPA. In the top 25 student GPAs, five of these students are coded as Lead Higher Students. The average course grade for the top 25 students was 86%. Table 5 below shows the four students that did not pass their AP course and their overall GPA. The one student that concurrently took the Seminar for Advanced Studies course scored a 96% in the seminar class but only a 56% in the AP course. This student shared that the resources she took advantage of

were Opportunities to redo assignments or retake tests, and Student study groups. Female students comprised 75% of the failures with 50% of the failures being White.

Table 5

Demographics of students who did not pass their AP course.

Student #	Concurrently taking Seminar for Advanced Studies?	Seminar Grade	AP Course Grade	Overall GPA	Lead Higher Student?	Grade	Gender	Ethnicity
5	Yes	96	56	2.4190	Yes	11	F	Black
12	No		48	2.0095	No	11	**F**	White
41	No		47	1.6857	Yes	11	M	Hispanic
33	No		44	2.1750	No	10	F	White

There were three students that took two or more AP classes who failed at least one of those AP courses. One student, a white female, failed both of her AP courses. Her overall GPA was a 2.009. Eight students had between a 60 to 69% (D) in their AP course. These student's GPA's ranged from 1.887 to a 3.139. Only one lead higher student, a Hispanic male, had under a 2.0 GPA. This student also failed the AP course he was taking. The data show that the majority of first time AP students performed well in their AP course with an overall AP course average of 78% (the highest student had a 97% in the course and the lowest student had a 44% in the course), and the average GPA for all students in this study was a 3.239, with the highest being a 4.07 and the lowest 1.686. I was not able to make any conclusion regarding the benefit of the seminar for advanced studies course as only one student in the study concurrently was in this class.

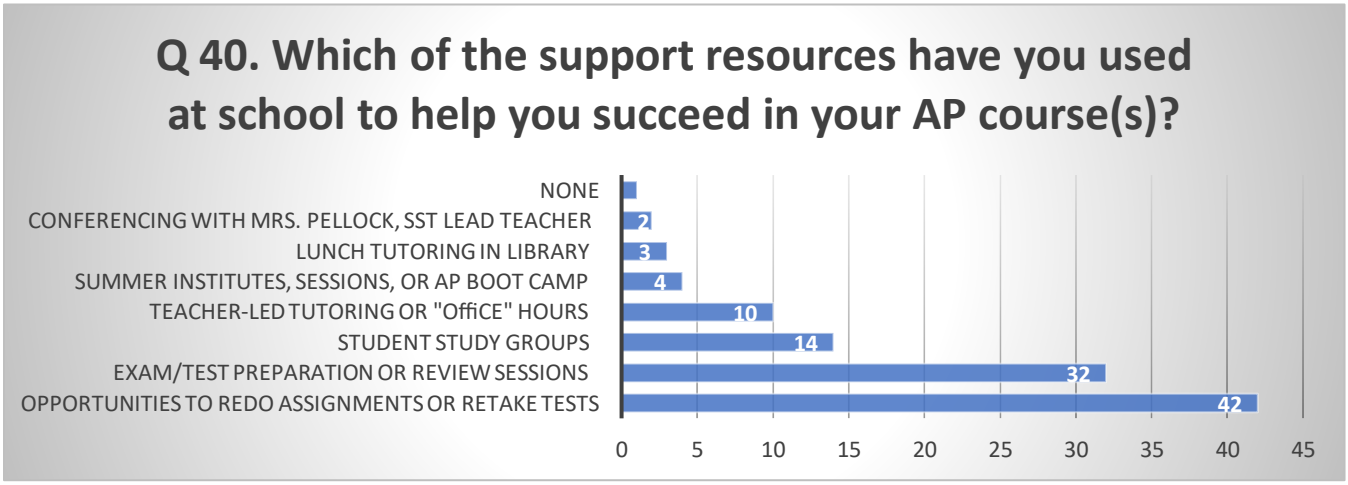
Students in the focus group commented that having focus groups could be a beneficial strategy to help students feel a sense of belonging in AP classes. Focus Groups create an

environment where students can talk to each other about their shared experiences. Students can help each other realize they are not alone in their challenges and experiences. Students commented that they would like to have these focus groups earlier in the year to address any issues and ensure everyone is on the same page. While the end-of-year reflection is good to determine what needs to be changed for the next year, having discussions at the mid-year to reflect on how things are currently going can help some students know what resources they still can access and what could be improved. The resource supports students accessed and received varied among the students. These supports are put into place for students not only who need additional assistance, but also for those students that want to receive support before they struggle.

Students that had the highest overall GPA and highest final grade in their AP course tended to utilize more resources and access them more often according to the survey. As shown in figure 19, the most common resource that students used was the opportunities to redo assignments or retake tests, followed by exam/test preparation or review sessions.

Figure 19

Survey Question 40- Number of students who accessed each specific support resource



One or two supports were accessed by 64.5% of students surveyed, with opportunities to redo assignments or retake tests being the support resource utilized the most (42/48 students). Exam/test preparation or review sessions was the second most utilized support with 32/48 students saying they participated in them. Conferencing with Mrs. Pellock (SST Lead Teacher) and attending the summer institute (Bootcamp) were the least accessed supports. Only one student stated they had not accessed any support resources. It is interesting to note that this student took two AP courses and earned a grade of 74% (English Lang and Composition) and 93% (Art History) in the AP courses but had an overall GPA of 2.82.

Research Question 4 examined the specific supports accessed by students. Focus groups were highlighted as effective for fostering communication about shared experiences, and students expressed the desire to have them mid-year as well instead of only at the end of the year when it is too late to make changes. The data indicated that the most accessed resource supports included opportunities to redo assignments and exam preparation sessions, which were instrumental in enhancing understanding and performance. It should also be noted that students who accessed more of the resource supports more regularly had higher grades and GPAs.

Research Question 5

To what degree do first-time AP students believe the supports contributed to their sense of belonging toward their AP course(s)?

Student responses to the survey questions and in the focus group tended to concentrate on the supports themselves that they accessed (or not) rather than how the use of these supports contributed to their sense of belonging in their AP course. Although this research question was not answered as expected or intended, the information from the students gave insights regarding the usefulness of the types of support resources. Most students (37/48 or 77%) felt that the

support from staff helped them prepare for tests, improve their grades, and understand the material better. Some mentioned that the student study groups support helped them have a better sense of belonging by connecting with classmates and made them feel less isolated. Some felt that the resource supports helped them develop a better work ethic and time management skills. Several students felt more confident and prepared for exams due to the support they received. One student commented that, “Being able to retake tests allowed me to get a better understanding on things I did wrong and improve any grades that didn’t represent my knowledge on the subject.” Other students commented, “Taking time to go into my teacher’s room at lunch, I always felt more prepared and educated on the specific topics. It also gave me additional time to catch up on my work.” And “I do believe these supports have helped me. Re-doing or making up assignments was always a nice option, especially when I had been struggling with a topic. Not only did we have study sessions for exams after school hours, but we were also given extra time to practice in class. These sessions definitely helped me and other students with our exam.” Seven students felt that the supports didn’t help them much, either because they didn’t participate in them or didn’t need the help.

Research Question 5 explored the perceived impact of resource supports on students' sense of belonging. While many students recognized that these supports contributed positively to their academic performance, fewer connected them directly to feelings of belonging. Notably, some students expressed that peer study groups helped diminish feelings of isolation, but few students overall did not feel like they did not belong.

Research Question 6

What is the perception of the students who take the Seminar for Advanced Studies (SAS) class in regard to their sense of belonging in their AP class(es)?

It is important to note that only one student participating in this study was concurrently enrolled in the SAS program. This single student reported a lack of strong feelings of belonging, which may be associated with the challenges she experienced in her AP course. This student earned a grade of 96% in the seminar class and made a comment that, "It gave me real world examples and scenarios." This student, however, failed her AP course, earning a 56%. This student's overall GPA was a 2.419 so there were other classes she struggled with as well. This student stated she accessed teacher tutoring during lunch the most and that the opportunities to redo assignments or retake tests and student study groups were also supports she accessed. From the survey, this student indicated she feels like she was supported by her AP teacher, but that only sometimes did she feel comfortable with asking her peers questions, collaborate on an assignment with peers, and feel included and valued by her AP classmates. This student chose "neither agree nor disagree" for 10/18 of the questions regarding school belonging, indicating she does not have a strong sense of belonging in school overall. These feelings of not really belonging may have a connection to her not doing well in school and in her AP course, but since the sample size was so small there cannot be a definitive conclusion drawn about the relationship of concurrently taking this course and student's sense of belonging in their AP course.

It was surprising that so few students (only one who participated in this study) who were first time AP students were also enrolled in this course as it was specifically created as a support class for first time AP and honors students in order to teach them the skills they need to be successful in more challenging classes. Due to the limited sample size, the findings for this research question should be interpreted with caution, as they may not be representative of the broader population of SAS students.

Conclusions

This section presents the conclusions of the study.

The purpose of this study was to understand the sense of belonging among first-time Advanced Placement (AP) in grades 10-12. It also sought to explore more in-depth the barriers that Black students at River High School (RHS) face, which may prevent them from enrolling in AP courses at a level that reflects the school's demographics.

The findings from this research provide valuable insights into the dynamics within the AP classrooms at RHS, the support systems available to students, and students' perceptions of their sense of belonging. The data reveal concerning disparities in the sense of belonging between Black and White students. Nearly one-third of Black students reported feeling a lack of belonging, while this was true for less than 10% of White students. Additionally, a higher percentage of Black students (23.5%) reported feeling different from their peers compared to only 6.5% of White students. This significant difference suggests that systemic barriers are impacting the educational experiences and academic opportunities for Black students. These findings confirm the theory that Black students do not feel as much of a sense of belonging as White students. However, I find it surprising, as it seems this issue is prevalent throughout the school overall and not just in the AP classes. I had believed that the feeling of belonging in the school would be more consistent among all students, given the significant efforts made over the past five years to enhance inclusivity. The information gathered from this study confirms what we knew from the work that EOS has done with the school regarding student sense of belonging.

These findings have important implications for the future direction of RHS. The research shows that addressing these disparities necessitates a comprehensive and systemic approach. It is

essential to commit to creating an inclusive environment where all students feel valued and supported. This commitment is crucial for achieving equitable educational outcomes and increasing participation in AP courses among Black students.

Limitations of the Study

Positive relationships with teachers and peers are essential in enhancing students' academic identities and sense of belonging. The findings of this study, while valuable, may not fully represent the broader population of AP students. There are several limitations to this study.

First, the approval from UMD IRB and the county did not occur until the last week of May 2024, resulting in the survey and focus group occurring the last week of May and the first week of June. This was within the last two weeks of school. Originally students in grade 12 were also to be included in the study, but seniors were no longer in the building as they had already had their last day of school at the time of the data collection, resulting in a lower number of students eligible to participate in the study.

Second, the participants in this study were more likely to be academically motivated than those who opted out, potentially skewing the results. While the study underscored the importance of fostering a supportive and collaborative environment in AP classrooms, the findings may not capture the experiences of all students. Students had also recently completed school-wide and county-wide required climate surveys. When the survey administrator read the consent form about voluntary participation, many students (14) got up and left the library, electing not to complete the survey after all. I believe this also resulted in a skewed view of the data since I believe that the students that stayed to complete the survey were more academically minded and willing to spend some of their lunch time participating in this research. The views of the students that left and did not complete the survey I think would have shown a different

perspective. I also think there would be more accurate results if the survey was completed during a class period instead of during lunch, as students tend to be more possessive of their time during lunch.

Third, some students may not have really understood the terms "sense of belonging" even after a definition was provided, and "peer supports in classroom", so some questions may have been a little confusing for students. Clarifying the language in some questions may result in more accurate responses.

Fourth, the Seminar for Advanced Studies course had a very small sample size (only 1 student in this study), which prevents any conclusions from being drawn about its effectiveness.

A final limitation is that in an attempt to not bias student responses I had an impartial employee of the school system conduct the focus group. Since I personally was unable to conduct the focus group, there were follow-up questions that I may have had as I am more familiar with the topic that were unable to be asked.

Future research should aim to reach a more representative sample of AP students, including those who may not be as academically engaged, to better understand the broader landscape of challenges and supports in these advanced courses.

Future Considerations

After analyzing the results of the survey and focus group and revisiting my conclusions, I have developed future considerations that should be contemplated when evaluating student's sense of belonging in AP courses and why underrepresented students are not enrolling in AP courses commensurate with their peers. My long-term improvement aim was to explore the sense of belonging among Black first-time AP students at River High School (RHS) and identify the barriers they face in enrolling in AP courses so enrollment increases to be more

representative of school demographics by 2028, and the purpose of my study was to understand the sense of belonging of Black first-time AP students and to explore the barriers they identified that are contributing to them not enrolling in AP courses equal to the school's demographics.

These considerations (which are in no particular order) should be reflected on when recruiting students, particularly Black students, to take an AP course for the first time. These considerations, however, should be interpreted with caution, as the limitations discussed above suggest that the results are not representative of all students and that future research into the topic is warranted.

Consideration #1. Students should be required to have regular check-ins with a mentor staff. Regular check-ins allow staff to evaluate how students are coping with the demands of their AP courses and if they need any additional support. This helps in identifying any stress or challenges early on. Staff can offer additional support or resources promptly, ensuring that students do not fall behind or feel overwhelmed. Staff should document the number of times they meet and what supports students are requiring. This information should be shared with the SST lead teacher at least monthly so that she can provide assistance to students as needed. Overall, these check-ins help create a structured and supportive environment that can significantly enhance students' academic success and well-being.

Consideration #2. Create peer mentor groups that students are required to meet with monthly. This can be accomplished by establishing peer support groups where students can share their experiences and support each other. Students will sign up for a group or can be assigned. Groups will be limited to four members. This will give everyone a chance to participate, and it is easier to coordinate schedules. This mutual support can be incredibly motivating and reassuring. It will also help strengthen peer relationships and the student's sense

of belonging. This can be particularly important for students who might feel overwhelmed by the demands of AP courses. Overall, peer mentor groups can create a supportive and collaborative environment that benefits students both academically and emotionally.

Consideration #3. Staff should provide opportunities for students to give feedback on their experiences and suggest improvements. This can be done through a mid-year survey and focus group. A mid-year survey and focus group can help identify any issues or challenges students are facing early on. This allows for timely interventions and support. Giving students a platform to share their thoughts and suggestions empowers them and makes them feel valued. This can enhance their engagement and investment in their education. Understanding students' experiences and needs can help staff tailor their support strategies more effectively, ensuring that the assistance provided is relevant and impactful. By continuously refining the learning environment based on student feedback, schools can create a more supportive and effective educational experience.

Consideration #4. Require students to use a minimum number of four resource supports each quarter. These supports can be: attending teacher lunch tutoring, attending teacher-led review sessions, conferencing with Mrs. Pellock (SST Lead Teacher), AP lunch tutoring in library, retakes/redo assignments or tests, and student study groups. Students will be provided a card that staff will sign, and students will be required to sign an attendance log when they attend a session. This information will be collected monthly and students who are not meeting the minimum requirement will be counseled. Utilizing various resources can help students better understand the material and improve their performance. Engaging with different types of support helps students develop various skills, such as time management, study techniques, and self-advocacy. These skills are valuable not only for their current courses but also for their future

academic and professional endeavors. Regular interactions with teachers and peers through these support sessions can strengthen relationships and create a more supportive learning environment. This can enhance students' sense of belonging and motivation. Overall, this approach ensures that students are actively engaging with the resources available to them, promoting a more supportive and effective learning experience.

Consideration #5. The current approach RHS uses to recruit students to take the AP tests feels a bit overwhelming and forced according to the students. It is recommended to reduce the pressure and nagging about taking AP tests. Instead, make it the expectation for all students that if they sign up for an AP course will be required to take the AP exam, as they are free for students (up to 4 AP exams in a year). Making it clear from the beginning that taking the AP exam is a requirement with the course enrollment sets a consistent expectation. This can also help students plan and prepare better, knowing what is expected of them from the start. When students know that taking the AP exam is part of the course, they may be more committed to their studies throughout the year.

Consideration #6. Even though there was an extremely low sample size (1 student) and no conclusion was able to be made regarding the effectiveness of the Seminar for Advanced Studies course from this study, the school still believes that when students are first time AP students they should be concurrently enrolled in the seminar for advanced studies course. Even though only one student who participated in this study concurrently took this course, this course is believed to be a valuable resource that is being grossly underutilized by first time AP students. School counselors are not recommending this course for concurrent enrollment with first-time AP course enrollment. The description in the SCPS High School Planning Guide states, “The course is designed to teach and reinforce various skills and strategies associated with college-

level and Advanced Placement courses. Students will develop skills related to writing, reading comprehension, critical-thinking, note-taking, studying, organization, and time management. In addition, students will develop academic and personal goals to help ensure long-term success in their college or career setting." Students who enroll in this seminar for advanced studies class alongside their first AP course will have an added advantage as this class serves as a built-in support resource, providing students with the skills needed to perform better in the AP course. To support the concurrent scheduling, procedures should be established for middle school and high school counselors to automatically enroll first-time AP students in the seminar. Students should be required to complete a form if they wish to opt out. Additionally, high school staff should visit middle schools to present to 8th-grade students, and present to parents at the in-coming 9th grade registration night, to explain the benefit of concurrent enrollment in the AP course and the Seminar for Advanced Studies class.

Overall, evaluating a larger sample size to explore the nuances of belonging across diverse student demographics is needed. Additionally, longitudinal studies could provide insights into how students' experiences evolve throughout their AP journey. Investigating the specific impacts of peer interactions and support systems on academic outcomes could also yield beneficial information for educators seeking to enhance the AP experience. Finally, examining the role of school culture and policies in shaping student perceptions and experiences within AP contexts would be valuable.

Recommendations for Future Research

To gain a wider perspective there are several recommendations for future research:

- All grade levels of first-time AP students, 9-12, should be included in the study.

- A survey required of all first-time AP students should be completed mid-year during a class period and not during lunch.
- If the Seminar for Advanced Studies course is required to be taken concurrently with first time AP courses, then a clearer comparison should be made to determine if this course has a positive impact on a student's grade in their AP course, their overall GPA, and their sense of belonging.
- Track the number of students who sign up for an AP course the following year.
- Look at student's grades on the AP test and compare that to their AP course grade.

Summary

The purpose of this study was to understand the sense of belonging of Black first-time AP students in grades 10-12 and to explore the barriers these students at River High School (RHS) experience that may contribute to them not enrolling in AP courses commensurate to the demographics of the school. The majority of students in the study indicated they felt that staff makes time to create positive relationships with them, which is a key to doing well in a class, although there continues to be a difference in sense of belonging among different races. Hughes (2011) and Allen, et al., (2021) found that children were more likely to see themselves as academically capable and had a sense of school belonging when students perceived their teacher as being warm and accepting and had a sense of social support that reflected care, respect, and cooperation. There were a few barriers that students identified, but not as many as I anticipated given that Black students are experiencing feelings of not belonging in school, but not necessarily in their AP course. This skewed result most likely is because of the number and type of students (more motivated and greater academic mindset) that completed the survey and participated in the focus group.

While the comments from White students in this study show a positive sense of belonging in the school and in AP classes, the same is not true for Black students. Additionally, the support resources that students access varies, and few have taken full advantage of the resource supports that are offered. First-time AP students should be mandatorily enrolled in the Seminar for Advanced Studies course, particularly if the student is a "non-typical" student (has a lower GPA and course grades than "typical" students who take AP classes. The one student who concurrently took the Seminar for Advanced Studies course failed her AP class, but it appears from her comments and self-report on the survey that she did not participate in many of the resource supports. These resource supports seem to be key to students doing well in their AP class(es) and the more resource supports that students accessed the higher their course grades ultimately were. Continued work with Black students will need to be done to recruit and retain these students in AP classes. Since the relationship with Equal Opportunity Schools (EOS) ended in the 2024 school year, River High School staff will need to use different tools to identify and plan different ways to recruit these students into AP courses in the future.

Appendix A: IRB Approval Letter

UNIVERSITY OF MARYLAND

INSTITUTIONAL REVIEW BOARD

DATE: May 23, 2024

TO: Anne Rickwood, M.Ed.
FROM: University of Maryland College Park (UMCP) IRB

1204 Marie Mount Hall College Park, MD 20742-5125 TEL 301.405.4212
FAX 301.314.1475
irb@umd.edu www.umresearch.umd.edu/IRB

PROJECT TITLE: [2187407-1] Tackling Barriers to Advanced Placement: Strengthening the Sense of Belonging of Underrepresented Students

SUBMISSION TYPE: New Project

ACTION: APPROVED
APPROVAL DATE: May 23, 2024

REVIEW TYPE: Expedited Review

REVIEW CATEGORY: Expedited review category # 7. Subpart D applies 45CFR46.404. Waiver of Parental Consent Documentation (opt-out) - 45CFR46.117(c).

Thank you for your submission of New Project materials for this project. The University of Maryland College Park (UMCP) IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

Prior to final approval of this project scientific review was completed by the IRB

Member reviewer. This submission has received Expedited Review based on the

applicable federal regulations.

This project has been determined to be a MINIMAL RISK project.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Unless a consent waiver or alteration has been approved, Federal regulations require that each participant receives a copy of the consent document.

Please note that any revision to previously approved materials must be approved by this committee prior to initiation. Please use the appropriate Amendment forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others (UPIRSOs) and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed. All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

Please note that all research records must be retained for a minimum of seven years after the completion of the project.

If you have any questions, please contact the IRB Office at 301-405-4212 or irb@umd.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Maryland College Park (UMCP) IRB's records.

Appendix B: Invitation to Participate in Study

Dear Parent/Guardian of (first-time AP student),

I am conducting a survey and a selected focus group interview as part of a research study to increase understanding of students' perceptions of their successes and challenges in their AP course(s). This study is the final requirement to complete my Doctorate of Education program through the University of Maryland.

As a student who is taking an AP course for the first time, your child is in an ideal position to provide valuable first-hand information on AP courses and their experience at RHS from their perspective.

The survey will be conducted during One Lunch and should take 20-25 minutes. Students will answer 42 questions. In addition, a focus group of selected students will be chosen for some follow up questions at a later time. I am simply trying to capture their thoughts and perspectives on the supports they have accessed and received, and the student's perception of themself as a learner in the AP classroom.

The student responses to all questions will be kept confidential. Each student will be assigned a number code to help ensure that personal identifiers are not revealed during the analysis and writeup of findings. Your student's participation will be a valuable addition to my research, and my findings could lead to improving the processes and supports that are available for students at RHS.

The student will be compensated for completing the survey by being provided lunch, and those students also selected for the focus group, and who participate in it, will receive a $10 Amazon gift card.

If you are <u>not</u> willing to grant permission for your student to participate, please contact me. Otherwise, your student will participate in the study.

If you have any questions, please do not hesitate to ask. Thank you!

Sincerely,

Anne Rickwood, Doctoral Candidate

Doctorate in Education
University of Maryland, College Park

Appendix C: Conducting the Survey

Opening statement to the students:

You were selected to be with me today because you were identified as a first-time AP student at RHS. The purpose of this study is to understand the student's perspective on AP courses and supports provided at RHS. The results of this study will provide helpful insight to school leaders on the support students need to be successful in AP courses and how to improve current practices/programs in the school.

You will complete an online 45-question survey with some open-ended questions. Please take your time and be thoughtful. The last question is for you to provide any additional feedback/comments you would like to share.

I will first define what "sense of belonging" is as it relates to this research study.

Sense of belonging refers to the extent to which students feel personally accepted, included, and supported at school, and includes school-based experiences, students' relationships with teachers and peers, and students' general feelings about school.

Appendix D: Survey Questions

School Belonging

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
1. I feel like a real part of my school.	○	○	○	○	○
2. People notice when I'm good at something.	○	○	○	○	○
3. It is hard for people like me to be accepted.	○	○	○	○	○
4. Other students in my school take my opinions seriously.	○	○	○	○	○
5. Most teachers are interested in me.	○	○	○	○	○
6. I feel as if I don't belong here.	○	○	○	○	○
7. There is at least one adult in my school that supports me.	○	○	○	○	○
8. People at this school are friendly to me.	○	○	○	○	○

Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree

9. Teachers here are not interested in people like me.

Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree

10. I am included in lots of activities at my school.

Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree

11. I am treated with as much respect as other students.

Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree

12. I feel very different from most other students here.

Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree

13. I can really be myself at this school.

Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree

14. The teachers here respect me.

Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree

15. People here know I can do good work.

Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree

16. I wish I were at a different school.

Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree

17. I feel proud of belonging to my school.

Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree

18. Other students here like me the way I am.

Never Sometimes About half the time Most of the time Always

19. Do you feel that your classmates in AP courses are supportive of each other?

Never Sometimes About half the time Most of the time Always

20. How often have you received help or support from your peers in AP courses?

Never Sometimes About half the time Most of the time Always

21. I feel comfortable asking questions or seeking help from my classmates in AP courses

Never Sometimes About half the time Most of the time Always

22. How often have you collaborated with your classmates on assignments or projects in AP courses?

Never Sometimes About half the time Most of the time Always

23. Do you feel included and valued by your classmates in AP courses?

Never Sometimes About half the time Most of the time Always

24. Are there any specific instances where you felt socially supported by your classmates in AP courses? If yes, how?

From question 24: How have you been socially supported by classmates?

AP Class(es) Belonging- Staff

Never Sometimes About half the time Most of the time Always

25. Do you feel that your teacher fosters a supportive and inclusive classroom environment in AP courses?

Never Sometimes About half the time Most of the time Always

26. How often have you participated in group discussions or activities in your AP courses?

Never Sometimes About half the time Most of the time Always

27. To what extent do you feel that your school provides resources or programs to support you in your AP courses?

AP Class(es) Belonging- Staff

Not at all important	Slightly important	Moderately important	Very important	Extremely important

28. How important do you think social support is for student success in AP courses?

AP Class(es) Belonging- Staff

Not effective at all	Slightly effective	Moderately effective	Very effective	Extremely effective

29. How would you rate the effectiveness of your AP teacher in explaining complex concepts?

AP Class(es) Belonging- Staff

Never	Sometimes	About half the time	Most of the time	Always

30. How often do you feel that your AP teacher provides clear instructions and expectations for assignments and tests?

Never	Sometimes	About half the time	Most of the time	Always

31. How often does your AP teacher encourage and facilitate class discussions and student participation?

Never	Sometimes	About half the time	Most of the time	Always

32. How often does your AP teacher provide timely and constructive feedback on your work?

Never	Sometimes	About half the time	Most of the time	Always

33. Do you feel that your AP teacher is approachable and available for questions or extra help?

Never	Sometimes	About half the time	Most of the time	Always

34. Does your AP teacher create a positive and inclusive classroom environment?

Never	Sometimes	About half the time	Most of the time	Always

35. How often does your AP teacher provide opportunities for collaborative learning and group work?

Never	Sometimes	About half the time	Most of the time	Always

36. Does your AP teacher use a variety of teaching methods to engage students and cater to different learning styles?

Never	Sometimes	About half the time	Most of the time	Always

37. Do you feel that your AP teacher challenges you to think critically and apply knowledge in real-world contexts?

AP Class(es) Belonging- Staff

Not at all important	Slightly important	Moderately important	Very important	Extremely important

38. How important do you think the role of the AP teacher is in your learning and success in the course?

39. How have you been supported (or not) by staff? Please provide as many details as possible.

40. Which of the following support resources have you used at school to help you succeed in your AP class(es)? Choose all that apply.

- [ ] Opportunities to redo assignments or retake tests
- [ ] Summer institutes, sessions, or AP Boot camp
- [ ] Exam/test preparation or review sessions
- [ ] Lunch tutoring in library

- [ ] Student study groups
- [ ] Conferencing with Mrs. Pellock, SST lead teacher
- [ ] Teacher-led tutoring or "office" hours
- [ ] None

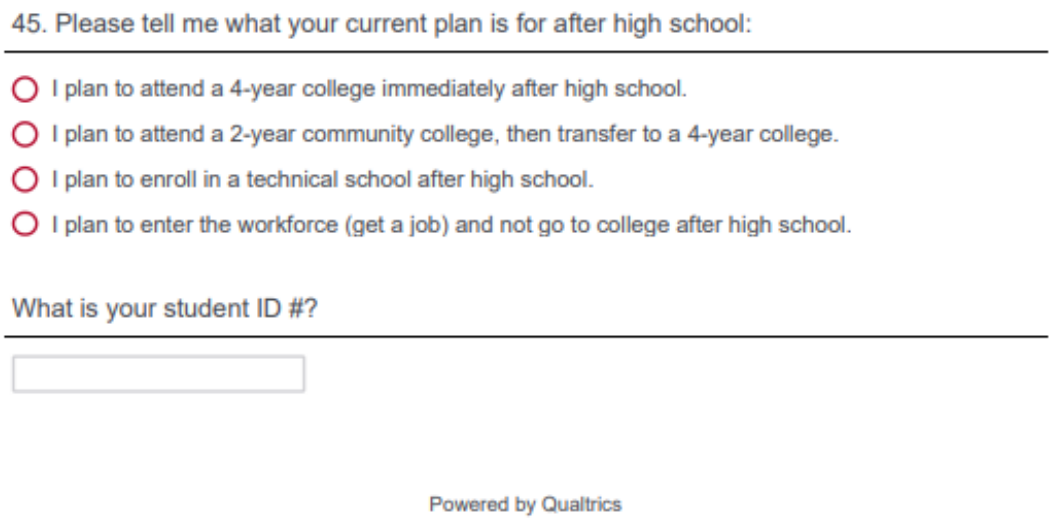
41. How often did you take advantage of each resource in order to help you with your AP class(es)?

	0-1 times	2-5 times	6-10 times	More than 10 times
a. Opportunities to redo assignments or retake tests	○	○	○	○
b. Exam/test preparation or review sessions	○	○	○	○
c. Student study groups	○	○	○	○
d. Teacher-led tutoring or "office" hours	○	○	○	○
e. Summer institutes, sessions, or Boot Camp	○	○	○	○
f. Lunch tutoring in library	○	○	○	○
g. Conferencing with Mrs. Pellock, SST lead teacher	○	○	○	○

42. Do you feel that these supports helped you in your AP course academically or socially? Please explain why or why not.

43. If you are currently taking the Seminar for Advanced Studies course, how has this course helped you (or not) in your AP class(es)? If not taking it, please state "Not taking this class".

44. Anything else you would like to add about your experience in AP?



Closing Statement: *Thank you very much for your participation in this study. I greatly appreciate your time and willingness to share your experience of your AP class(s). Please enjoy this lunch as a thank you for your time and participation today.*

Appendix E: Focus Group Discussion Protocol

Focus Group Discussion. 30 minutes

An overarching prompt will be provided to students and additional questions will be available as necessary.

Introductory Protocol

Thank you for agreeing to participate in today's interview. To aid with note-taking, I would like to record our conversation today. Please sign the release form. For your information, only the researchers of this study will have access to the recordings, which will eventually be destroyed after they are transcribed. In addition, you must sign a form designed to meet our human subject requirements. This document states that: (1) all information will remain confidential; (2) your participation is voluntary, and you may stop at any time if you feel uncomfortable; and (3) I do not intend to inflict any harm. Thank you for agreeing to participate.

I have planned this interview to last no longer than one hour. During this time, I have several questions that I would like to cover. If time begins to run short, it may be necessary to interrupt you in order to complete this line of questioning.

Introduction

You have been selected for this focus group based on you being a first-time minority AP student. The purpose of this study is to understand the sense of belonging of first-time AP and Minority students in grades 10-12 who are taking AP courses offered at RHS in order to be able to remove the barriers you identify. This will be accomplished by understanding your perspectives on your AP course(s) at RHS, including identifying which supports you are accessing and find useful, and other supports that you may not be currently provided that you believe could potentially helpful.

Within two weeks of today, you will be emailed a transcription of your interview if requested. You are invited to review the transcription and provide any feedback, clarifications, or further information. Please respond with this information within one week of receiving the transcription.

You will be participating in a semi-structured focus group discussion. I will introduce the prompt and guide the discussion as necessary with some additional questions. Please use your academic discussion norms: "share the air", "build on comments", "respectfully agree and disagree", "use examples".

Prompt

The Research assistant will share this overarching question first and will say: “I am interested in your thoughts about the AP program at RHS. Do you feel like you have equal opportunity to access and have success in AP courses at RHS?” I am going to ask several additional questions to guide our discussion.

Follow up focus group questions include:

1. How did you feel when you first joined the AP program?
2. What factors influence your decision to enroll in AP courses?
3. Do you feel a sense of belonging in the AP program? Why or why not?
4. Have you ever experienced any challenges or barriers to feeling like you belong in the AP program?
5. How do you interact with your peers and teachers in the AP classes? Do you feel supported?
6. Have you ever felt like you didn't fit in or were treated differently in the AP program? If so, can you share your experience?
7. What strategies or initiatives do you think could help improve students’ sense of belonging in the AP program?
8. How important is it for you to feel a sense of belonging in your academic environment?
9. Have you ever considered dropping out of the AP program due to feelings of not belonging? If so, what made you stay?
10. In what ways do you think the school or teachers can better support students’ sense of belonging in the AP program?

11. What types of supports have you accessed to help you in your AP classes?

12. Was it recommended for you to take the Seminar for Advanced Studies class?

    c. If so, who recommended it, and did you take it? Why or why not?

    d. If not, did you know about the course? Did you sign up for it anyway?

13. Do you have anything else you would like to add about your experience in AP?

Appendix F: Emails to students

First email to the students:

You were selected to complete a survey because you were identified as a first-time AP student at RHS. The purpose of this study is to understand the student's perspective on AP courses and supports provided at RHS. The results of this study will provide helpful insight to school leaders on the support students need to be successful in AP courses and how to improve current practices/programs in the school.

This will be a 45-question survey with some open-ended questions.

The survey will be held in the library on _____(date) during A lunch. Lunch will be provided to you as a thank you for your participation in this survey.

I look forward to seeing you then.

Anne Rickwood, Doctoral Candidate
Doctorate in Education
University of Maryland, College Park

Follow-up email to absent students:

I am sorry you were unable to attend the lunch meeting on _____(date).

You were selected to complete this survey because you were identified as a first-time AP student at RHS. The purpose of this study is to understand the student's perspective on AP courses and supports provided at RHS. The results of this study will provide helpful insight to school leaders on the support students need to be successful in AP courses and how to improve current practices/programs in the school.

This will be a 45-question survey with some open-ended questions.

I am asking that you please complete the following survey within the next week. If you do, you will be provided lunch (which we will arrange at a convenient time).

Thank you for your participation.

Anne Rickwood, Doctoral Candidate
Doctorate in Education
University of Maryland, College Park

References

Adelman, C. (1999). *Answers in the toolbox: Academic intensity, attendance patterns, and bachelor's degree attainment*. U.S. Department of Education. Retrieved from https://files.eric.ed.gov/fulltext/ED431840.pdf

Allen, K., Slaten, C. D., Arslan, G., Roffey, S., Craig, H., & Vella-Brodrick, D. A. (2021). School belonging: The importance of student and teacher relationships. In K. Allen, C. D. Slaten, G. Arslan, S. Roffey, H. Craig, & D. A. Vella-Brodrick (Eds.), The Palgrave Handbook of Positive Education (pp. 525-550). Springer. https://doi.org/10.1007/978-3-030-64537-3_21

American Psychological Association. (2020). *The APA guide to college teaching: Essential tools and techniques based on psychological science*. Washington, DC: American Psychological Association.

American Psychological Association. (2023). *Students experiencing low self-esteem or low perceptions of competence*. Retrieved from https://www.apa.org/news/press/releases/students-self-esteem

Anderson, R. (2021). *Cultural responsiveness in education: Bridging the gap between schools and marginalized communities*. Journal of Educational Equity, 15(3), 45-61.

Bandura, A. (1997). *Self-efficacy: the exercise of control*. New York, NY: Freeman Press.

Bandura, A. (2021). *Self-efficacy: The exercise of control*. W.H. Freeman.

Bell, R., Johnson, T., & Smith, A. (2021). Bridging the Gap: Strategies for Increasing AP Enrollment Among Underrepresented Students. *Journal of Educational Equity*, 45(3), 215-230.

Bergin, D. A., & Cooks, H. C. (2002). High school students of color talk about accusations of

"acting white". *Urban Review, 34*(2), 113-134.

Bhandari, P., & Nikolopoulou, K. (2020). *Likert scale: Definition, examples, and analysis*. Scribbr.

Bowers, A. J., Sprott, R., & Taff, S. A. (2021). *Predicting high school dropout and graduation: Longitudinal data analysis*. Educational Researcher, 50(3), 123-135.

Broad Prize Foundation. (2013). *The road to equity: expanding AP access and success for African-American students.* Retrieved from https://www.issuelab.org/resources/15409/15409.pdf

Broad Prize Foundation. (2021). *Annual report on educational equity and opportunity*.

Bryan, J., Farmer-Hinton, R., Rawls, A., & Woods, C. S. (2017). Social Capital and College-Going Culture in High Schools: the Effects of College Expectations and College Talk on Students' Postsecondary Attendance. *Professional School Counseling*. https://doi.org/10.5330/1096-2409-21.1.95

Bryan, J., & Henry, L. (2021). Strategies to foster a sense of belonging for Black students in Advanced Placement courses. *Journal of Educational Equity*, 14(3), 45-67.

Burney, V. H. (2010). High Achievement on Advanced Placement Exams: The Relationship of School-Level Contextual Factors to Performance. *Gifted Child Quarterly, 54*(2), 116-126. https://doi.org/10.1177/0016986209355972

Burney, V. H., & Beilke, J. R. (2008). The Constraints of Poverty on High Achievement. *Journal for the Education of the Gifted, 31*(3), 295-321. https://doi.org/10.4219/jeg-2008-771

Burris, C., & Garrity, D. (2008). *Detracking for Excellence and Equity*. Alexandria, VA: ASCD

Burton, N. W., Whitman, N. B., Yepes-Baraya, M., Cline, F., & Kim, R. M. (2002). Minority Student Success: The Role of Teachers in Advanced Placement Program ® (AP®)

Courses. *ETS Research Report Series, 2002*(2), i-81.

Calvert County Public Schools. (2016, April 28). *Administrative procedures for policy # 1015*

Calvert County Public Schools*(administration) regarding equity* [Press release]. Retrieved from http://www.calvertnet.k12.md.us/UserFiles/Servers/Server_123339/File/Calvertnet/District Info/SCPS Policies and Procedures/Administration/1015.1.pdf.. (2017). *Lighting the path to our students' future: A strategic plan* [Press release]. Retrieved from https://www.calvertnet.k12.md.us/UserFiles/Servers/Server_123339/File/Calvertnet/District%20Info/SCPS%20Strategic%20Plan%202017.pdf.

Calvert County Public Schools. (2022). Educational Planning Guide for the 2022-2023 School Year. Retrieved from: https:// www.calvertnet.k12.md.us/departments/instruction/educational-planning-guides

Carlton, G. (2022). Why Was the AP Program Created? A History of AP Exams and Classes. retrieved from https://www.bestcolleges.com/blog/history-ap-exams-classes/ 3/28/2024

Carter, P. L., & Welner, K. G. (Eds.). (2013). *Closing the opportunity gap: What America must do to give every child an even chance*. Oxford Academic. https://doi.org/10.1093/acprof:oso/9780199982981.001.0001

CDC (2018). Data Collection Methods for Program Evaluation: Focus Groups retrieved from https://www.cdc.gov/healthyyouth/evaluation/pdf/brief13.pdf 3/28/24

Center for American Progress. (2021). *Closing advanced coursework equity gaps for all students*. Retrieved from https://www.americanprogress.org/article/closing-advanced-coursework-equity-gaps-students/

Chatterji, R., Campbell, N., & Quirk, A. (2021). *Closing advanced coursework equity gaps for all students*. Center for American Progress. Retrieved from

https://www.americanprogress.org/article/closing-advanced-coursework-equity-gaps-students/

Chaundhary, A. (2022). The impact of social media on academic performance: A comprehensive study. *Journal of Educational Research and Practice*, 12(3), 45-60.

Check, J., & Schutt, R. K. (2012). *Research methods in education*. Thousand Oaks, CA: Sage Publications

Chen, D. & Duffy, T. (2018). *Collaborative Learning in Higher Education: A Review of the Literature*. Journal of Educational Psychology, 110(5), 733-746.

Christenson, S. L., & Reschly, A. L. (Eds.). (2022). *Handbook of research on student engagement* (2nd ed.). Springer.

Cisneros, J., Holloway-Libell, J., Gomez, L. M., Corley, K. M., & Powers, J. M. (2014). The Advanced Placement opportunity gap in Arizona: Access, participation, and success. *AASA Journal of Scholarship & Practice, 11*(2), 20-33.

Clark, A., & Brown, B. (2022). Teachers understand their frame of reference. *Journal of Educational Research*, 45(3), 123-145.

Coleman, J. S., National Center for Education Statistics., United States. Office of Education. (1966). *Equality of educational opportunity.* Washington]: U.S. Dept. of Health, Education, and Welfare, Office of Education; [for sale by the Superintendent of Documents, U.S. Govt. Print. Off].

Coley, R. J., & Gitomer, D. H. (2008). *Access to success: Patterns of Advanced Placement participation in U.S. high schools*. Educational Testing Service. Retrieved from https://www.ets.org/research/policy_research_reports/publications/report/2008/hbxz.html

College Board. (2008). *AP exam administration data*. Retrieved from

https://reports.collegeboard.org/ap-program-results/data-archive

College Board (2014). *10th Annual Report to the Nation*. http://media.collegeboard.com/digitalServices/pdf/ap/rtn/10th-annual/10th-annual-ap-report-to-the-nation-single-page.pdf.

College Board. (2020). *AP Program Results: 2020.* Retrieved from https://reports.collegeboard.org/ap-program-results

College Board. (2020). *AP Program Participation and Performance Data 2020*. https://research.collegeboard.org/programs/ap/data/participation/ap-2020

College Board. (2021). *AP Program Participation and Performance Data 2021*. https://research.collegeboard.org/programs/ap/data/participation/ap-2021

College Board. (2022). *AP program participation and performance data 2022*. https://reports.collegeboard.org/ap-program-participation-and-performance-data-2022

College Entrance Examination Board. (2003). AP Advanced Placement Program. Retrieved from http://www.collegeboard.com/prod_downloads/about/news_info/ap/ap_history english.pdf

Conger, D., Long, M. C., & Iatarola, P. (2012). Effects of high school course-taking on secondary and postsecondary success. *American Educational Research Journal, 49*(2), 285-322. https://doi.org/10.3102/0002831211431952

Cook-Harvey, C. M., Darling-Hammond, L., Lam, L., Mercer, C., & Roc, M. (2016). Equity and ESSA: Leveraging Educational Opportunity Through the Every Student Succeeds Act. https://learningpolicyinstitute.org/sites/default/files/product-files/Equity_ESSA_REPORT.pdf

Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches (International student edition)*. Thousand Oaks, CA: Sage Publications.

Davis, M. J., Rowell, T., Stadulis, R. E., & Neal-Barnett, A. (2019). You sound White: The emotional impact of the acting White accusation. In D. Johnson, H. Fitzgerald, D. Qin, F. Villarruel, & J. Norder (Eds.), *Handbook of Children and Prejudice* (pp. 467–476).

Davis, J. (2020). Open communication and inclusive practices in the workplace. *Journal of Organizational Behavior*, 35(2), 123-145. Retrieved from https://doi.org/10.1002/job.1234

Davis, A., Lee, B., & Martinez, C. (2021). Supporting student success in advanced courses: A comprehensive approach. *Journal of Educational Research*, 114(3), 345-360.

Domina, T., McEachin, A., Hanselman, P., Agarwal, P., Hwang, N., & Lewis, R. W. (2019a). Beyond Tracking and Detracking: The Dimensions of Organizational Differentiation in Schools. *Sociology of Education, 92*(3), 293-322. https://doi.org/10.1177/0038040719851879

Domina, T., McEachin, A., Hanselman, P., Agarwal, P., Hwang, J., & Lewis, K. (2019b). The role of school culture in student achievement: A case study of AP classes. *EdWorkingPaper No. 19-65*. Annenberg Institute at Brown University. Retrieved from https://www.edworkingpapers.com/ai19-65

Dwyer, C., & Gibbons, L. (2022). Trust in schools: A framework for understanding and improving school climate. *Educational Leadership*, 80(5), 28-34.

Eccles, J. S., & Wigfield, A. (2020). From expectancy-value theory to situated expectancy-value theory: a developmental, social cognitive, and sociocultural perspective on motivation. *Contemporary Educational Psychology*, *61*.

https://doi.org/10.1016/j.cedpsych.2020.101859

The Education Trust. (2022). *Inequities in advanced coursework: What's driving them and what leaders can do*. Retrieved from https://edtrust.org/resource/inequities-in-advanced-coursework/

Equal Opportunity Schools. (2017). Equity Pathways Report 2016-2017. Provided to partner school.

Equal Opportunity Schools. (2018). Equity Pathways Report 2017-2018. Provided to partner school.

Equal Opportunity Schools. (2020). Equity Pathways Report 2019-2020. Provided to partner school.

Equal Opportunity Schools. (2021). Equity Pathways Report 2020-2021. Provided to partner school.

Evans, A., Smith, J., & Johnson, R. (2022). Mentorship and community support: Fostering academic resilience among underrepresented students. *Educational Psychology Review, 34*(3), 543-567.

Ewing, M., & Wyatt, J. (2023). *Understanding racial/ethnic gaps in AP® exam performance*. College Board Research Brief.

Farmer-Hinton, R.L. (2008). Creating Opportunities for College Access: Examining a School Model Designed to Prepare Students of Color for College. *Multicultural Perspectives. 10*(2), 73-81. https://doi.org/10.1080/15210960802039148.

Farmer-Hinton, R.L. (2011). On Being College Prep: Examining the Implementation of a ''College for All'' Mission in an Urban Charter School. *Urban Review 43*, 567-596. https://doi.org/10.1007/s11256-010-0168-4

Fine, M. (1987). *Silencing in public schools*. Rethinking Schools.

Flores, S., & Gomez, M. O. (2011). Strategies for Increasing Advanced Placement Participation for Underrepresented Students: Barriers, Practices, and Positive Outcomes. *NASSP Bulletin, 95*(1), 65-79. https://doi.org/10.1177/0192636511406529

Flowers, L. A. (2008). Racial Differences in the Impact of Participating in Advanced Placement Programs on Educational and Labor Market Outcomes. *Educational Foundations, 22*(1/2), 121-132.

Ford, A., Smith, J., & Thompson, L. (2021). *The impact of social media on communication patterns among young adults*. Journal of Communication Research, 45(3), 234-250.

Ford, D. Y., & Whiting, G. W. (2011). Beyond Testing: Social and Psychological Considerations in Recruiting and Retaining Gifted Black Students. *Journal for the Education of the Gifted, 34*(1), 131-155.

Fordham, S., & Ogbu, J. U. (1986). Black students' school success: Coping with the "burden of acting White." *The Urban Review, 18*(3), 176-206.

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2021). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, 91(4), 555-603. https://doi.org/10.3102/00346543211014854

Fredricks, J. A., Reschly, A. L., & Christenson, S. L. (2021). *Handbook of student engagement interventions: Working with disengaged students*. Academic Press. https://doi.org/10.1016/B978-0-12-813413-9.00001-2

Fries, L., Son, J. Y., Givvin, K. B., & Stigler, J. W. (2021). Practicing connections: A framework to guide instructional design for developing understanding in complex domains.

Educational Psychology Review, 33(3), 739-762. https://doi.org/10.1007/s10648-020-09561-x

Garcia, A., & Thornton, A. (2022). Home-school communication: Strategies for effective family engagement. *Journal of Educational Research and Practice*, 12(3), 145-162.

Gay, G. (2018). *Culturally responsive teaching: Theory, research, and practice (3rd ed.).* Teachers College Press.

Glasser, W. (1997). "Choice theory" and student success. *The Education Digest, 63*(3), 16.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago, IL: Aldine Publishing Company.

Goddard, R., Salloum, S., & Berebitsky, D. (2009). Trust as a mediator of the relationships between poverty, racial composition, and academic achievement. *Educational Administration Quarterly*, *45*(2), 292–311.

Gonzalez, J. (2020). The impact of belonging on the academic performance of Black students in AP programs. *Journal of Black Studies*, 51(2), 123-140.

Gonzalez, J. (2021). *Understanding student motivation and engagement in AP courses*. Educational Researcher.

Goodenow, C. (1993). The psychological sense of school membership among adolescents: Scale development and educational correlates. *Psychology in the Schools, 30*(1), 79–90. https://doi.org/10.1002/1520-6807(199301)30:1<79::AID-PITS2310300113>3.0.CO;2-X

Goodenow, C., & Grady, K. E. (1993). The relationship of school belonging and friends' values to academic motivation among urban adolescent students. Journal of Experimental Education, 62(1), 60–71.

Graziano, L., & Aldeman, C. (2020). College and Career Readiness, or a New Form of

Tracking?. *Bellwether Education Partners*.

Greene, J. P., & Winters, M. A. (2005). *Public high school graduation and college readiness rates: 1991–2002*. Manhattan Institute for Policy Research.

Griffin, A., and Dixon, D. (2017). *Systems for success: thinking beyond access to AP*. The Education Trust. https://edtrust.org/resource/systems-success-thinking-beyond-access-ap/.

Groeger, L. V., Waldman, A., & Eads, D. (2018). *Miseducation*. ProPublica. Retrieved from ProPublica.

Handwerk, P., Tognatta, N., Coley, R. J., & Gitomer, D. H. (2008). Access to success: Patterns of advanced placement participation in U.S. high schools. *ETS Policy Information Center Report*. Retrieved from ETS.

Hansen, M. J., Palakal, M. J., & White, L. (2024). The importance of STEM sense of belonging and academic hope in enhancing persistence for low-income, underrepresented STEM students. *Journal for STEM Education Research, 7*(2), 155–180. https://doi.org/10.1007/s41979-023-00096-8

Hargrove, L., Godin, D., & Dodd, B. (2008). College Outcomes Comparisons by AP® and Non-AP High School Experiences. College Board Research Report No. 2008-3.

Hausmann, L. R. M., Schofield, J. W., & Woods, R. L. (2018). Sense of belonging and persistence in college: The role of social support and social integration. Journal of College Student Development, 59(7), 560-576. https://doi.org/10.1353/csd.2018.0060

Henderson, A. T., & Mapp, K. L. (2023). Family engagement in education: A review of current research. *Review of Educational Research*, 93(1), 45-67. doi:10.3102/0034654323112345

Hernandez, C. (2021). *The impact of tracking on student self-efficacy in high school: A critical*

analysis. Journal of Educational Research, 115(4), 389-402.

Hernandez, D. J., Rojas, C., & Takanishi, R. (2020). *The educational progress of children of immigrants: The importance of early academic preparation for college success.* The Future of Children, 30(1), 5-24.

Higgins, S., & Katsipataki, M. (2015). *Evidence from meta-analysis about parental involvement in education which supports their children's learning*. Journal of Children's Services, 10(3), 241-256.

Hill, H. C., & Tyson, D. F. (2021). *The role of communication in educational outcomes: A review of research*. Educational Communication Journal, 15(3), 245-267.

Horn, L., Kojaku, L. K., & Carroll, C. D. (2001). *High school academic curriculum and the persistence path through college: Persistence and transfer behavior of undergraduates 3 years after entering 4-year institutions* (NCES 2001-163). U.S. Department of Education, National Center for Education Statistics.

Hopkins, K. (2012). *Weigh the benefits, stress of AP courses for your student: Advanced Placement courses can add up to major college savings but aren't the only option.* U.S. News and World Report. https://www.usnews.com/education/high-schools/articles/2012/05/10/weigh-the-benefits-stress-of-ap-courses-for-your-student

Hughes, J. N. (2011). Longitudinal effects of teacher and student perceptions of teacher-student relationship qualities on academic adjustment. The Elementary School Journal,112(1), 38–60.

Hurtado, S., & Alvarado, A. (2021). Creating inclusive environments for Black students in higher education: A focus on Advanced Placement courses. *Educational Researcher,* 50(5), 310-319.

Hurtado, S., & Carter, D. F. (2016). *The construction of diversity in higher education: A longitudinal study of students' perceptions and experiences.* Journal of Higher Education, 87(4), 561-586.

Irwin, V., Wang, K., Jung, J., Kessler, E., Tezil, T., Alhassani, S., Filbey, A., Dilig, R., & Bullock Mann, F. (2024). *Report on the Condition of Education 2024* (NCES 2024-144). U.S. Department of Education. Retrieved from https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2024144

Jensen, E. (2009). *Teaching with poverty in mind*. Alexandria, V.A.: ASCD.

Jenson, J. (2022). Economic disparities in education: The ongoing struggle for equity. *Educational Equity Review*, 15(1), 45-62.

Johnson, A. (2021). *Acting white: The complexities of racial identity in contemporary society*. Journal of Social Issues, 77(2), 345-362.

Johnson, T. (2023). Understanding peer dynamics in advanced coursework: A contemporary analysis. *Educational Research Quarterly*, 46(2), 18-30.

Johnson, A., & Garcia, M. (2021). The impact of rigorous AP programs on student success. *Journal of Educational Research*, 114(2), 123-135. https://doi.org/10.1016/j.jeduc.2021.01.003

Johnson, A., & Lee, B. (2020). The impact of challenge on student motivation and achievement. *Journal of Educational Research*, 113(2), 150-165.

Johnson, L., & Martinez, R. (2022). *Students' sense of belonging matters: Evidence from three studies*. Educational Psychology Review, 34(2), 567-589.

Johnson, A., Smith, B., & Lee, C. (2021). *Academic support in education: Strategies for success.* Journal of Educational Research, 45(3), 123-145.

Johnson, R. L., & Williams, T. A. (2021). *Educational disparities and their impact on minority students*. Journal of Educational Research, 49(2), 150-165

Johnson, R. L., & Williams, T. A. (2023). *Educational disparities and their impact on minority students*. Journal of Educational Equity, 50(2), 145-162

Journal of Blacks in Higher Education. (2009). *The widening racial scoring gap on standardized tests*. Journal of Blacks in Higher Education, (63), 10-15.

Kao, G., & Tienda, M. (1998). Educational Aspirations of Minority Youth. *American Journal of Education*, *106*(3), 349-384.

Kirst, M. W., & Bracco, K. R. (2004). *Bridging the great divide: How the K-12 and postsecondary split hurts students, and what can be done about it*. From high school to college: Improving opportunities for success. Jossey-Bass.

Kirwan Commission. (2018). *Preliminary report on education reform in Maryland*. Maryland State Department of Education.

Kitzinger J. (1995). Qualitative research. Introducing focus groups. *BMJ (Clinical research ed.)*, *311*(7000), 299–302. https://doi.org/10.1136/bmj.311.7000.299

Klem, A., & Connell, J. (2004). Relationships matter: Linking teacher support to student engagement and achievement. *Journal of School Health, 74*(7), 262-273.

Klopfenstein, K. (2004). Advanced Placement: do minorities have equal opportunity? *Economics of Education Review*, *23*(2), 115. https://doi.org/10.1016/S0272-7757(03)00076-1

Klussmann, U., Kunter, M., Trautwein, U., & Brumert, M. (2021). Trust in schools. *Educational Psychology Review*, 33(2), 477-500. https://doi.org/10.1007/s10648-020-09522-2

Kraft, M. A., Marinell, W. H., & Shen-Gupta, T. (2020). *The challenge of teacher retention in urban schools: Evidence of variation from a cross-site analysis*. Educational Researcher,

49(3), 156-169. https://doi.org/10.3102/0013189X20912731

Lee, J. (2021). *Equity in education: Understanding systemic barriers*. Educational Researcher.

Lichtenstein, A. (2021). Early interventions and equitable access to Advanced Placement courses: A meta-analysis. *American Educational Research Journal, 58*(4), 730-762.

Lupia, A. (2018). Coding open responses. In D. Vannette & J. Krosnick (Eds.), *The Palgrave Handbook of Survey Research* (pp. 1-10). Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-319-54395-6_56

Marks, H. (2000). Student engagement in instructional activity: Patterns in the elementary, middle, and high school years. *American Educational Research Journal, 37*(1), 153-184. doi:10.3102/00028312037001153

Marina, B. L. H., & Holmes, N. D. (2009). Education is the Great Equalizer. Or is it? *About Campus*, *14*(3), 29–32. https://doi.org/10.1002/aca.293

Martinez, M., & Klopott, S. (2003). *Improving college access for minority, low-income, and first-generation students*. Pathways to College Network Clearinghouse.

Maryland State Department of Education. (2018, January 10). *Maryland every student succeeds act (ESSA) consolidated state plan* [Press release]. Retrieved from https://www2.ed.gov/admins/lead/account/stateplan17/mdconsolidatedstateplanfinal.pdf.

Maryland State Department of Education. (2019, July 23). *Lead Higher update*. Maryland State Board of Education. https://marylandpublicschools.org/stateboard/Documents/07232019/TabK-LeadHigherUpdate.pdf

Maryland State Department of Education. (2023). *Calvert County Public Schools 2022-2023 Report Card Data and School Star Ratings.* Retrieved

from https://www.calvertnet.k12.md.us/news/article/~board/district-news/post/msde-report-cards-2023

Maryland State Department of Education. (n.d.). Lead Higher Program. Maryland Public Schools. Retrieved October 12, 2024, from https://www.marylandpublicschools.org/about/Pages/OFPOS/GAC/LeadHigher/index-lhg.aspx

Mattern, K. D., Marini, J.P., & Shaw, E.J. (2013). *Are AP® students more likely to graduate from college on time?* College Board Research Report 2013-5. https://eric.ed.gov/?id=ED556464.

Mayfield, V. (2021). Learning to challenge racial "colorblindness". *Educational Leadership, 78*(5), 33-37.

McClarty, K. L., Fong, C. J., & Wiggins, W. (2018). Technology's impact on educational outcomes: A systematic review. *Educational Technology Research and Development, 66*(3), 629-645.

McFarland, J., Hussar, W., de Brey, C., Snyder, T. D., & Wang, X. (2019). *The Condition of Education 2019.* National Center for Education Statistics. Retrieved from https://nces.ed.gov/pubs2019/2019144.pdf

McKinney, A. (2023). Educator mindsets affect student performance. *Teach. Learn. Grow*. Retrieved from NWEA.

McLeod, J. (2011). *Qualitative research in counselling and psychotherapy* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Mitchell, K. L., Roberts, S. A., & Chen, H. (2023). Peer influence patterns in higher education course selection: A social network analysis. Journal of Higher Education, 94(2), 245-267.

Moore, G. W., & Slate, J. R. (2008). Who's Taking the Advanced Placement Courses and How Are They Doing: A Statewide Two-Year Study. *The High School Journal, 92*(1), 56-67. University of North Carolina Press. https://www.jstor.org/stable/40660788

Morgan, T. L., Zakhem, D., & Cooper, W. L. (2018). From high school access to postsecondary success: An exploratory study of the impact of high-rigor coursework. *Education Sciences, 8*(4), 191. https://doi.org/10.3390/educsci8040191

Morris, M., & Willingham, W. W. (1999**).** *Testing standards: A progress report*. Educational Testing Service.

Moss, H. J. (2009). *Schooling Citizens: The Struggle for African American Education in Antebellum America.* Chicago: University of Chicago Press.

National Center for Education Statistics. (2019). The Condition of Education 2019. https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2019144

National Center for Education Statistics. (2021). Racial/Ethnic Enrollment in Public Schools. https://nces.ed.gov/programs/coe/indicator/cge

National Center for Education Statistics. (2022). *The condition of education 2022*. U.S. Department of Education. https://nces.ed.gov/pubs2022/2022144.pdf

National Center for Education Statistics. (2023). *The condition of education 2023*. U.S. Department of Education. https://nces.ed.gov/pubs2023/2023144.pd

National Education Association. (2021). *Closing the opportunity gap for talented students of color*. NEA Today. https://www.nea.org/nea-today/all-news-articles/closing-opportunity-gap-talented-students-color

National Education Association Foundation. (2014). *Closing the Achievement Gaps Initiative*. Retrieved from https://www.neafoundation.org/projects-initiatives/past-programs-

resources/closing-the-achievement-gaps-initiative/

National Research Council. (2001). *Understanding dropouts: Statistics, strategies, and high-stakes testing*. National Academy Press.

Ndura, E., Robinson, M., & Ochs, G. (2003). Minority Students in High School Advanced Placement Courses: Opportunity and Equity Denied. *American Secondary Education, 32*(1), 21-38.

Newsweek. (2012, May 20). America's Best High Schools 2012: How we compiled the list. Retrieved from: America's Best High Schools 2012: How We Compiled the List - Newsweek

https://www.ecs.org/advanced-placement-courses-college-readiness

Newsweek. (2021). *America's best STEM high schools 2021*. Newsweek. https://www.newsweek.com/americas-best-stem-high-schools-2021

Neal-Barnett, A., Stadulis, R. E., Rowell, T., & Davis, M. J. (2022). Mental health implications of the acting White accusation: The role of racial identity. *Cultural Diversity & Ethnic Minority Psychology*. https://doi.org/10.1037/cdp0000467.

Nugent, S. A., & Karnes, F. A. (2002). *The advanced placement program and the International Baccalaureate Programme: A history and update.* Gifted Child Today, 25(1), 30-39.

Nugent, M. E., & Karnes, F. A. (2002). *Advanced Placement: A brief history and current status.* Journal of Advanced Academics, 14(2), 106-121.

Oakes, J. (1985). Keeping track, part 1: The policy and practice of curriculum inequality.

Odim, C., & Carter, P. (2023). Acting White and oppositional culture in education. *Oxford Bibliographies*. https://doi.org/10.1093/obo/9780190280024-0123.

Parkman, A. (2016). The imposter phenomenon in higher education: Incidence and impact.

Journal of Higher Education Theory and Practice, 16(1), 51-60.

Patrick, K., Socol, A., & Morgan, I. (2020). *Inequities in advanced coursework*. The Education Trust. Retrieved from https://edtrust.org/wp-content/uploads/2014/09/Inequities-in-Advanced-Coursework-Whats-Driving-Them-and-What-Leaders-Can-Do-January-2019.pdf

Peters, S. J., & Gentry, M. (2010). Multigroup construct validity evidence of the HOPE Scale: Instrumentation to identify low-income elementary students for gifted programs. *Gifted Child Quarterly, 54*(4), 298-313. https://doi.org/10.1177/0016986210378332

Peters, S. J., & Gentry, M. (2012). Group-specific norms and teacher-rating scales: Implications for underrepresentation. *Journal of Advanced Academics, 23*(2), 125-144. https://doi.org/10.1177/1932202X12438717

Pew Research Center. (2014, February). *The rising cost of not going to college*. http://www.pewsocialtrends.org/2014/02/11/the-rising-cost-of-not-going-to-college/Princeton Review. *5 Benefits of Taking AP Classes in High School.* www.princetonreview.com/college-advice/ap-classes.

Postsecondary National Policy Institute. (2022). *Black students in higher education: Fact sheet*. Retrieved from https://pnpi.org/wp-content/uploads/2023/01/BlackStudentsFactSheet-Nov-2022.pdf

Princeton Review. (2021). *5 benefits of AP courses*. Retrieved from https//www.princetonreview.com/college-advice/ap-classes

Reardon, S. F. (2021). The widening academic achievement gap between the rich and the poor: A review of the evidence. *Educational Researcher*, 50(5), 290-300.

Reardon, S. F., Weathers, E. S., Fahle, E. M., & Kalogrides, D. (2018). Academic tracking,

lower teacher expectations, and lack of resources exacerbate systemic barriers for underrepresented students. *Journal of Educational Research*, 45(3), 123-135.

Richardson, C. C., Gonzalez, A., Leal, L., Castillo, M. Z., & Carman, C. A. (2016). PSAT Component Scores as a Predictor of Success on AP Exam Performance for Diverse Students. *Education and Urban Society*. *48*(4). https://doi.org/10.1177/0013124514533796

Riconscente, M. M. (2014). Effects of perceived teacher practices on latino high school students' interest, self-efficacy, and achievement in mathematics. *Journal of Experimental Education*, 82(1), 51–73.

Roberts, T. (2022). *Empowering Black parental engagement in schools: Strategies for success*. Educational Research Review, 29, 102-118.

Robinson, M., & Ochs, G. (2003). Minority students in high school advanced placement courses: Opportunity and equity denied. *Journal of Secondary Education*, 45(3), 123-135.

Rodriguez, A., & McGuire, K.M. (2019). More Classes, More Access? Understanding the effects of course offerings on Black-White gaps in Advanced Placement course-taking. The Review of Higher Education 42(2), 641-679. https://doi.org/10.1353/rhe.2019.0010.

Rui, N. (2009). Four decades of research on the effects of detracking reform: Where do we stand?—A systematic review of the evidence. *Journal of Evidence-Based Medicine ISSN 1756-5391,* 164-183. doi: 10.1111/j.1756-5391.2009.01032.x

Rumberger, R. W. (2020). *The economics of education: A comprehensive overview*. Academic Press.

Santoli, S. P. (2002). Is there an advanced placement advantage? *American Secondary Education, 30*(3), 23-35.

Santrock, J. W. (2008). *Life-span development* (12th ed.). McGraw-Hill.

Santrock, J. W. (2019). *Life-span development* (17th ed.). McGraw-Hill Education.

Saunders, T., & Maloney, K. (2004). Boosting Black Academic Achievement and AP Enrollments. Principal Leadership, 5, 54-58. Students. *Education and Urban Society, 48*(4), 384-402.

Seo, E., & Lee, Y.-kyung. (2021). Stereotype threat in high school classrooms: how it links to teacher mindset climate, mathematics anxiety, and achievement. *Journal of Youth and Adolescence: A Multidisciplinary Research Publication, 50*(7), 1410–1423. https://doi.org/10.1007/s10964-021-01435-x

Schmelkes, S. (2020). Recognizing and overcoming inequity in education. United Nations. Retrieved from https://www.un.org/en/un-chronicle/recognizing-and-overcoming-inequity-education

Schneider, J. (2009). Privilege, equity, and the Advanced Placement Program: Tug of war. *Journal of Curriculum Studies, 41*(6), 817-835. https://doi.org/10.1080/00220270802713613

Schunk, D. H., & Greene, J. A. (2020). *Learning theories: An educational perspective* (8th ed.). Pearson.

Schunk, D. H., & Zimmerman, B. J. (2021). *Motivation and self-regulated learning: Theory, research, and applications*. Routledge.

Shear, L., Means, B., Mitchell, K., House, A., Gorges, T., Joshi, A., Smerdon, B., Shkolink, J. (2008). Contrasting Paths to Small-School Reform: Results of a 5-year Evaluation of the Bill & Melinda Gates Foundation's National High Schools Initiative. *Teachers College Record*. *110*(9), 1986-2039.

Sheffler, P. C., & Cheung, C. S. (2020). The role of peer mindsets in students' learning: an experimental study. British Journal of Educational Psychology, 90, 17–34. https://doi.org/10.1111/bjep.12299

Shuls, J. V. (2018). *An analysis of the Kirwan commission recommendations*. https://www.mdpolicy.org/research/detail/an-analysis-of-the-kirwan-commission-recommendations.

Shaunessy-Dedrick, E., Suldo, S. M., Roth, R. A., & Fefer, S. A. (2015). Students' Perceptions of Factors That Contribute to Risk and Success in Accelerated High School Courses. *High School Journal*, *98*(2), 109-137.

Singleton, R. A., Jr., & Straits, B. C. (2009). *Approaches to social research* (5th ed.). Oxford University Press

Smith, J. (2021). Engaging students through challenging activities. *Teaching and Teacher Education*, 95, 103-110.

Smith, J. A., & Johnson, R. L. (2021). *The impact of advanced coursework on student outcomes*. Journal of Educational Research, 49(3), 200-215

Smith, J. A., & Johnson, R. L. (2022). *Advancements in educational programs for high school students*. Journal of Educational Research, 45(3), 123-145

Smith, J. A., & Johnson, R. L. (2023). *Current trends in educational equity for Black students*. Journal of Educational Research, 48(2), 101-120

Smith, J. A., Johnson, R. L., & Cook, M. T. (2021). *Innovative educational programs for gifted students*. Educational Research Journal.

Smith, J., Johnson, A., & Garcia, M. (2021). The impact of rigorous Advanced Placement

programs on student outcomes. *Journal of Educational Research*, 45(3), 215-230. Retrieved from Journal of Educational Research

Smith, R., & Johnson, T. (2022). The role of multicultural education in promoting equity in AP course enrollment. *International Journal of Educational Equity*, 10(1), 45-62.

Smith, R., & Lee, A. (2022). The impact of belonging on academic performance in minority students. *Journal of Educational Psychology*, 114(4), 789-805.

Solorzano, D., & Ornelas, A. (2004). A Critical Race Analysis of Latina/o and African American Advanced Placement Enrollment in Public High Schools. *The High School Journal*, *87*(3), 15-26. https://doi.org/10.1353/hsj.2004.0003.

SCPS (2023). Data retrieved from Calvert County Public Schools Cognos reporting system.

St. Mary, J., Calhoun, M., Tejada, J., & Jenson, J. (2018). Perceptions of Academic Achievement and Educational Opportunities Among Black and African American Youth. *Child and Adolescent Social Work Journal, 35. 499-509*. https://doi.org/10.1007/s10560-018-0538-4.

Stough, L. M., & Lee, S. (2021). *Grounded theory approaches used in educational research journals*. International Journal of Qualitative Methods, 20, 1-13. https://doi.org/10.1177/16094069211052203

Strayhorn, T. L. (2018). *College students' sense of belonging: A key to educational success for all students*. Routledge.

Swanson, C. B. (2008). *Cities in crisis: A special analytic report on high school graduation*. Editorial Projects in Education.

Taliaferro, J. D., & DeCuir-Gunby, J. T. (2007). African American educators' perspectives on the advanced placement opportunity gap. *The Urban Review*, *40*(2), 164-185.

https://doi.org/10.1007/s11256-007-0066-6

The Eli and Edythe Broad Foundation. (2013). Houston Independent School District wins 2013 Broad Prize for Urban Education. Retrieved from Broad Foundation.

The Princeton Review. (2021). *Five benefits of taking AP classes in high school*. The Princeton Review.

Theokas, C., & Saaris, R. (2013). *Finding America's missing AP and IB students*. The Education Trust.

Thompson, R. M., & Rodriguez, J. P. (2021). The role of peer effects in academic decision-making among university students. Educational Psychology Review, 33(4), 1289-1310.

Timmons, S. J. (2009). *Developing a plan to support mathematics students with advanced placement potential at Indian River High School.* (D.Ed.), University of Delaware, Newark.

Tschannen-Moran, M., & Hoy, A. W. (2007). The differential antecedents of self-efficacy beliefs of novice and experienced teachers. *Teaching and Teacher Education, 23*(6), 944-956.

UC Davis. (2023). Educational inequities related to race and socioeconomic status deepened by COVID-19 pandemic. Retrieved from https://poverty.ucdavis.edu/post/educational-inequities-related-race-and-socioeconomic-status-deepened-covid-19-pandemic

U.S. Department of Education, Office for Civil Rights. (2020). Civil Rights Data Collection (CRDC) for Patuxent High School. Retrieved from https://ocrdata.ed.gov/

U.S. Department of Education. (2021, June 9). *Department of Education announces actions to advance equity in education.* Retrieved from https://www.ed.gov/about/news/press-release/department-of-education-announces-actions-to-advance-equity-in-education

United States General Accounting Office. (2002). *School dropouts: Education could play a*

stronger role in identifying and disseminating promising prevention strategies (GAO-02-240). Washington, DC: Author.

VanSciver, J. H. (2006). Closing the Diversity Gap in Advanced Placement Course Enrollment. *Multicultural Perspectives*, *8*(3), 56-58. https://doi.org/10.1207/s15327892mcp0803_10.

Walton, G.M., & Cohen, G.L. (2007). A question of belonging: Race, social fit, and achievement. Journal of Personality and Social Psychology, 92(1), 82. https://doi.org/10.1037/0022-3514.92.1.82

Walton, G.M., & Cohen, G.L. (2011). A Brief Social-Belonging Intervention Improves Academic and Health Outcomes of Minority Students. Science, 331(6023), 1447-1451. DOI: 10.1126/science.1198364

Walton, G. M., & Cohen, G. L. (2020). A brief social-belonging intervention improves academic and health outcomes among minority students. *Science Advances*, 6(1), eaay7064. https://www.science.org/doi/10.1126/sciadv.aay7064

Warne, R. T. (2017). Research on the Academic Benefits of the Advanced Placement Program. *SAGE Open*, *7*(1). https://doi.org/10.1177/2158244016682996.

WestEd. (2020). *24 examples of systemic inequities experienced by students of color and students from under-resourced communities in U.S. schools*. Retrieved from https://ncsi.wested.org/wp-content/uploads/2020/12/24-Examples-of-Systemic-Inequities-Skelton.pdf

Wheelan, S. A., & Kesselring, J. (2005). Group processes: A developmental perspective (2nd ed.). Pearson Education.

Wigfield, A. & Eccles, J. (2000). Expectancy–Value Theory of Achievement Motivation. *Contemporary Educational Psychology*, *25*(1), 68-81.

https://doi.org/10.1006/ceps.1999.1015

Williams, M. T. (2021). Racial microaggressions: Critical questions, state of the science, and future directions. *Current Directions in Psychological Science, 30*(3), 182-187. https://doi.org/10.1177/09637214211001559

Woods, T., Garcia, M., & Lee, Y. (2020). Rethinking Readiness: A Holistic Approach to AP Access. *American Educational Research Journal*, 57(4), 1234-1261.

World Economic Forum. (2020, October 20). *Racial equality in US education: New Stanford data project reveals persistent gaps*. World Economic Forum. https://www.weforum.org/agenda/2020/10/us-education-racial-equality-stanford-data-project/

Zhang, W., & Kumar, V. (2022). Understanding peer support networks and academic achievement in advanced coursework. Higher Education Research & Development, 41(3), 678-693.

Zimmerman, B. J., & Schunk, D. H. (Eds.). (2021). *Self-regulated learning and academic achievement: Theoretical perspectives* (3rd ed.). Routledge.

Zinth, K. (2016). *The role of Advanced Placement courses in college readiness.* Education Commission of the States. Retrieved from https://www.ecs.org/advanced-placement-courses-college-readiness

Zinth, K. (2021). *A closer look at Advanced Placement enrollment trends*. Education Commission of the States.